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SOME GYNECOLOGIC MISDEMEANORS*

SIDNEY A. CHALFANT, M.D.

PITTSBURGH

I have concluded to comment briefly on some of the evils of present-day gynecology and abdominal surgery, and have taken as my title "Some Gynecologic Misdemeanors." It is far from my intention to give the impression that my criticisms apply to the profession as a whole. There is no finer class of men, or men more conscientious, devoted and skilful, than the medical profession of America.

LOCAL TREATMENTS OF THE VIRGIN

Let me first limit this point by stating that I do not intend to include necessary pelvic examinations; but even such an examination is frequently better done under an anesthetic, and with permission and in readiness to correct whatever abnormality may be found.

I can conceive of no condition in the virgin, an accidental gonorrheal infection alone excepted, that may be benefited by long continued tampon treatment. Yet we all frequently see patients of this kind who have been the victim of such procedures. It is usually done for the relief of a dysmenorrhea which is obstructive in type and cannot be influenced in any permanent way by such treatment.

Again, one wonders at the persistence which enables a physician to dilate sufficiently the vaginal orifice to permit him to introduce a large pessary. It would seem that almost any form of vaginal treatment that must be regularly repeated is, in this class of patients, contraindicated. It not only does not cure the condition, but too frequently is the exciting factor in developing a neurosis.

ILL CONSIDERED AND UNNECESSARY OPERATIONS

The comparative safety with which the abdomen can be opened leads, unless the surgeon is constantly on his guard, to a tendency to inaccurate or careless diagnosis. No elective operation should be undertaken until all possible means have been used to establish an exact diagnosis. We are all liable to make mistakes, but the surgeon who studies his cases carefully before operating will be able to reduce the percentage of errors to the minimum.

There are a few such mistakes that are so frequently made that they seem to merit special mention. The removal of the appendix for a supposed chronic appendicitis when the source of the trouble is in the ureter, colon, gallbladder or pelvic organs is entirely too frequent. It is a notorious fact that the ultimate result of the operation for chronic appendicitis, so far as relief from symptoms is concerned, is among the poorest in surgery, owing almost entirely to faulty diagnosis.

The idea that a "displacement of the womb" is an exceedingly serious condition and may cause symptoms of any kind seems to be firmly established in the minds of the people at large. Almost any woman who is not in good health from any cause can be persuaded to submit to operation when such a diagnosis is made. The fact that her displacement is developmental in origin, and has been present for many years without causing any symptoms, is lost sight of, and she is rushed to the hospital and operated on. Too often she is not relieved of her backache until she is fitted with proper support for her sacro-iliac joints; or of her headache until fitted with glasses, or even of her constipation until her diet is corrected. These things could be done before resorting to operation just as well as after it, and the patient saved the danger, suffering and expense of a needless laparotomy. It would seem that at times the benefit derived from this operation is largely due to the enforced rest incident thereto.

The time for safe operation on pelvic inflammatory disease that is of tubal origin has been thoroughly established, especially by the work of Dr. F. F. Simpson, a former chairman of this section, and my former chief, to whom I shall always be greatly indebted. Yet one is called frequently to reoperate on a patient, whose history and the condition of the abdomen when reopened both demonstrate conclusively that she was operated on during or too soon after an acute attack of salpingitis. One will occasionally in these cases be forced to a more radical operation after a conservative one; but if one is careful to see that one does not open the abdomen until the acute inflammation has completely subsided, second operations will be rare, the postoperative complications few, and the mortality low.

SURGERY BY THE INCOMPETENT

Any surgical operation may be likened to a two edged sword. It is undertaken in order to remove from the patient some diseased part that will, if left alone, terminate life, or to correct some abnormality that is causing more or less suffering. But suppose that, in an effort to relieve one set of symptoms, another set, even more distressing, is substituted. The patient has certainly made a bad trade. One cannot but be impressed by the number of patients who have had two, three or more operations, and in whom the last state is worse than the first. Any surgeon may, and all will at times, have a bad result. Yet by thorough training and by exercising constant care, the competent surgeon is able to reduce his bad results to a minimum, and this present mini-

* Chairman's address, read before the Section on Obstetrics, Gynecology and Abdominal Surgery at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

mum will be continually decreasing as surgical knowledge and individual skill increase. But what kind of result can be hoped for when the operator is without proper training and his facilities meager or entirely inadequate? This must result in both a high primary mortality and a high postoperative morbidity.

The inferior work is not all done in the small hospital in the smaller communities. Some of the large hospitals in our large cities seem to be only boarding houses for the sick. Any person with an M.D. degree is at liberty to do any operation that he may see fit to undertake. In the smaller communities there is too frequently an effort made to secure the support of the local physicians by placing them all on the staff of the hospital, irrespective of ability or training. I know of one town in which every physician was on the staff of the hospital in a rotating service. Each man was the surgeon for six weeks once in two years, and also in charge of the medical service for another six weeks once in two years. The result could not help being an inferior output.

CORRECTION OF EVILS

What can the organized profession do to correct these evils? For the correction must come from within. The present laws governing medical practice have been a hindrance only to the physician who tries to do legitimate work. The irregular knows that the chance of punishment is so slight that he pays no attention to the law.

1. I would suggest a more careful selection of medical students. While this should not be based entirely on preliminary education, usually the man or woman with a good preliminary education is more likely to appreciate the necessity of a thorough medical training. Character and right thinking are of equal importance.

2. The students should have more systematic instruction in the history of medicine, so that they will have the inspiration to be derived from a knowledge of the achievements of the past and in that way obtain an inspiration for their own work. During the student's medical course he is too much inclined to regard medicine as a finished subject instead of one that is constantly progressing. As soon as he has obtained his degree, he feels that the whole subject of medicine has been mastered and that he is perfectly competent to care for any patient that consults him.

3. Sufficient and efficient postgraduate schools should be established where the ambitious may be trained. Frequently the interns on leaving the hospital have discussed this point. Until recent years the only method of obtaining proper training was to secure a position as an assistant; and fortunate was the man who could get such a place. This situation has been greatly improved by the Mayo Foundation and the postgraduate department of the University of Pennsylvania and by special hospitals that give opportunities in their particular line. The need, however, is still great.

4. The public should be educated as to the necessity of obtaining competent surgical advice. The work being done by the American College of Surgeons in this line is most commendable, but only a beginning has been made.

5. The boards of trustees of our hospitals should be educated to a realization of the fact that the care of the sick is best done in an institution in which some research work is being carried out. Proper facilities must be provided for work of this kind. The trustees at times do not seem to appreciate the fact that professional fitness should be the ultimate test for appointment to the medical staff. If the work done in the hospital is better than the average, there will be no lack of patients.

CONCLUSION

In medicine, as in other lines of endeavor, we cannot stand still. If we do not go forward, we are sure to retrograde. The stimulus of some form of investigation is necessary to offset the drudgery of the routine work.

The members of the staff have a function other than the care of the sick. They should take sufficient time to review the work of the department with the younger men at regular intervals and to suggest, encourage and supervise some line of investigation. In this way only will progress be made and enthusiasm maintained.

Finally, do not let me give you the impression that I believe that the misdemeanors mentioned are the rule. I sincerely believe that the great bulk of American surgery is done in an efficient, skilful and proper manner, and that the average American surgeon is a thoroughly trained, conscientious and able exponent of the science and art of surgery, and ranks as the equal if not the peer of the surgeon of any other country.

7048 Jenkins Arcade.

THE RELATION OF DIET TO PELLAGRA *

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WASHINGTON, D. C.

It is proposed in the present communication to review the more outstanding, significant evidence bearing on the relation of diet to pellagra, including the essential dietary factor on which the relationship found to exist probably primarily depends.

It will be convenient to study this relation by considering the part diet plays in treatment, in prevention and in causation.

DIET IN TREATMENT

Opinions of authorities with respect to the place of diet in the treatment of pellagra have differed considerably. More than half a century ago, Roussel,[1] on the basis of his own observations and the experience of others, assigned to diet, and particularly to a milk diet, the place of first importance. This high position it seems subsequently not to have been able to hold, in large measure, at least, by reason of the dominating influence of Lombroso's teaching.

Lombroso[2] recognized that a liberal diet, particularly one of meat, was valuable in pellagra; but, having arrived at the conviction that pellagra was due not to insufficient alimentation but to an intoxication, he labored to find a pharmacologic antidote, and thought that he had succeded in finding such in arsenic. His views having been accepted by the foremost Roumanian clinicians, arsenic, particularly liquor potassii arsenitis (Fowler's solution), enjoyed a high repute among European observers.

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*Read before the Congress of American Physicians and Surgeons, Washington, D. C., May 3, 1922.

1. Roussel: Traité de la pellagre et des pseudo-pellagres, Paris, 1866.
2. Lombroso: Die Lehre von der Pellagra, Berlin, 1898, pp. 166-167.

When Americans came to deal with this problem, their experience proved to be disappointing, so that a search for a better remedy was taken up by them; and soon, in rapid succession, a number were suggested and earnestly advocated. At the same time, not much attention was paid to diet, which, with rare exceptions, received at most only incidental mention, being considered on a par with baths, change of climate, etc., attention being especially focused on one favorite remedy or another as the prime element in the "treatment" advocated. So much did this come to be the case, that when in 1914 diet was urged by us [3] as the rational treatment and it was pointed out that there was no medicine known that had any proved specific value, the suggestion was received as decidedly heterodox and, in some quarters, with vigorous dissent.

The results of a number of studies,[4] including observations of our own, made since then, all go to show that in uncomplicated cases of average severity the administration of a diet rich in animal protein foods (milk and meat) is quite regularly followed by clinical improvement, which begins to be manifest in from about ten days to two weeks. With only rare exceptions, provided the patient cooperates fully in taking the diet, the improvement thus begun continues progressively to eventual, complete, clinical recovery. Should the cooperation be unsatisfactory or the diet inadequate, either because suitable additions to the prepellagrous diet have not been made, or because they have not been made in sufficient quantities for the needs of the individual, a very different picture results. In these circumstances the manifestations either remain stationary, the symptoms continuing without significant change, or they develop further and with increasing severity. But even in such more advanced cases, a favorable change in food intake may be followed by improvement and recovery. Should such change, however, not soon be effected, the further progress and outcome of the case are of the gravest character.

The foregoing would seem very clearly to indicate that diet operates as a dominating factor in controlling the clinical course and outcome of the attack. But in order justly to appraise the importance of this apparently dominant influence of diet, it will be necessary to consider, even though briefly, whether and how there can be harmonized with it certain seemingly discordant observations, namely, (1) the failure of diet in certain cases to control the course and outcome of the disease; (2) the clinical improvement following correction of a concomitant disease or condition of an exhausting character without change in diet, and (3) the normal progress of the attack toward recovery without regard to treatment.

With respect to the failure of diet in certain cases of pellagra, it should first of all be made clear that this means simply that the progress of some cases is unfavorable and that the patients die in the attack in spite, seemingly, of the most careful feeding. In our experience the number of the cases that properly fall into this class has been relatively very small, and almost invariably these were manifestly very severe, frequently neglected cases when they first came under observation. That some such patients should die would seem to be no more than may reasonably be expected, particularly when it is recalled that a certain mortality occurs in human beriberi under analogous conditions.[5]

It has been repeatedly observed that the elimination of a concomitant disease or condition of an exhausting nature, such, for instance, as hookworm infestation or physical strain, may be followed by clinical improvement without any change in diet. In considering this interesting phenomenon, it is to be remembered that the adequacy of a diet is not necessarily an absolute quality, but one that may depend on a number of variables, some of which are connected with the individual himself. Thus, a diet that falls short of supplying the needs of the individual who is suffering from a drain, such as that imposed by infestation with the hookworm, the blood fluke or the dysenteric ameba, may adequately supply the needs of the individual not so taxed; or again, a diet that is insufficient for the woman who is up and about attending to her housework may fully supply her physiologic requirements after she takes to her bed. The explanation that suggests itself, therefore, is that the elimination of an exhausting disease or condition, by making available nutrients that previously, in one way or another, were diverted from or lost to the body, or by reducing the physiologic requirements connected with lessened energy needs, raises the relative nutritive value of the diet without any actual change therein being made.

It is an interesting and a very striking epidemiologic fact that, in general, in an endemic locality, cases of the disease begin to appear in March or April, become increasingly numerous during May, reach a peak in June, and then rapidly fade and disappear so that few are recognizable in September and, perhaps, not a single one may be discoverable in October where dozens may have been seen in June. Now, while some of the more severely ill of these patients may have sought and received professional advice and treatment most, if not all, of the other cases ran their course not only without any treatment, but many without the existence of an abnormal condition being recognized by the patient or the patient's family. Here, then, we seem to have an indication of the natural, undisturbed course of an attack; does not this suggest that its normal progress is toward recovery independent of diet, and for that matter, of other treatment?

So far as independence of any medicinal treatment is concerned, it seems clear that this question may be answered definitely in the affirmative. As it applies to diet, however, it is necessary first to determine whether the implied assumption that no dietary modification was made by the individuals who neither sought nor received treatment and, particularly, by those in whom the existence of the disease was not even suspected, is warranted.

That this assumption is not warranted quickly appears when it is recalled that the availability of supply of certain classes of foods, even for those living in places large enough to enjoy the benefits of cold storage, varies in some degree from season to season, and that in smaller or rural localities, depending very largely or entirely on local production for a supply of certain (perishable) foods, the variation in seasonal availability of these is even more marked. That such variations in availability tend to influence the diet of the household, and thus of the individual, every thoughtful person will recognize from his own experi-

3. Goldberger, Waring and Willets: Pub. Health Rep. **29**: 2821-2825 (Oct. 23) 1914.

4. Willets: South. M. J. **8**: 1044, 1915. Ridlon, J. R.: Pub. Health Rep. **13**: 1979 (July 28) 1916. Voegtlin, Carl: Ibid. **35**: 1435-1452 (June 18) 1920. Bigland, A. D.: Lancet **1**: 947 (May 1) 1920. Goldberger and Tanner: Unpublished data. Hammond-Searle and Stevenson: Report of Investigations of Pellagra Among Turkish Prisoners of War in Egypt, 1920.

5. Vedder, E. B.: Pellagra, Arch. Int. Med. **18**: 146 (Aug.) 1916.

ence. It follows, therefore, that in seeking to explain the seasonal incidence of the disease and the course normally pursued by an attack, account must be taken of the seasonal variation in food supply as, at least, a possible factor.

It thus appears that none of these seemingly discordant observations is inconsistent with the indication that diet operates as a dominating factor in controlling the clinical course of the attack.

DIET IN PREVENTION

In the past, pellagra has almost invariably been regarded as a chronic disease with a course marked by more or less regular, annually recurring attacks extending over an indefinite number of years.

There are not lacking in the older literature observations which suggest that this conception might not be sound. Thus, Cerri,[6] in 1795, in an investigation of the cause of pellagra, is said to have fed ten well marked pellagrins with "good food," in part of animal origin, and with "good bread" instead of the corn bread and polenta with which they had previously nourished themselves, and to have observed that their condition rapidly improved and that in the following year neither the eruption nor other manifestations made their appearance. A number of somewhat similar individual observations were made by Strambio,[7] who interpreted them simply as showing that a better diet masked the disease. Strambio's idea may be said to be summed up in the sinister aphorism that "once a pellagrin, always a pellagrin." This seems to have profoundly influenced medical opinion practically to the present day.

Such, at all events, was authoritative opinion in 1915, when Goldberger, Waring and Willets [8] reported that, following modifications in the diet of the inmates of two orphanages which for several years had been endemic foci of pellagra, only one recurrence was observed among an aggregate of 172 pellagrous children who had been under observation until at least the anniversary date of the previous attack, and not a single case among an aggregate of 168 nonpellagrin residents, all of whom had been under observation at least one year and, further, that following modifications in the diet of two groups of pellagrous insane of the Georgia State Sanitarium, also an endemic focus of long standing, not one of the 72 patients constituting these two groups developed any evidence of a return of the disease. They concluded that pellagra may be prevented by an appropriate diet without other alteration in hygiene or environment (including water supply).

These findings have since been confirmed by other workers. White,[9] studying an outbreak of pellagra among Armenian refugees at Port Said in 1916-1917, concludes, among other things, that "pellagra was eradicated from the (refugee) camp by correcting the faulty dietary, all other conditions remaining the same." Similarly, Stannus [10] reports that, following improvement in the dietary, pellagra disappeared from among the inmates of Central Prison, Nyasaland, where, "excepting the change in diet, all other conditions remained the same." And Wheeler,[11] working at Spartanburg, S. C., found that "one supplemental meal of fresh meat, milk, vegetables, fruit, bread (either wheat bread or corn bread, and butter was adequate to relieve the symptoms and to prevent recurrence in cases of pellagra of moderate severity in patients continuing in the environment in which the disease had originally developed or had previously recurred."

It may be added that the results of the further studies (unpublished) of prevention carried on by the workers of the Public Health Service during a considerable additional period and extended to include a larger number of pellagrous insane and a third orphanage in which the disease had prevailed extensively, are in harmony with, and fully confirm, the results of the first year's study reported on in 1915. Without exception, following changes in diet, other conditions remaining the same, including the admission of fresh cases from without, both recurrences and new cases ceased to develop. One would seem warranted in concluding, therefore, not only that diet controls the course of the immediate attack, but also that the clinical recovery thus brought about continues and no new cases develop so long as a proper diet is maintained.

Before this conclusion can be accepted as valid, however, it will be necessary to determine the significance of certain observations which seem, in a measure at least, to negative such a conclusion. These observations deal with cases which, in a general way, fall into one of three categories.

Embraced in the first of these categories are those relatively very rare cases occurring in well-to-do persons. Here the favorable economic status is assumed to indicate not only that a "good" diet was available but also that it was consumed and, therefore, it is reasoned, pellagra occurred in spite of a "good" diet. While, under the circumstances, the assumption that a "good" diet was available is, in general, a reasonable one, it does not follow; and, since it is the crucial point, it clearly is not permissible to assume that the diet actually consumed was "good" and adequate for the needs of the particular individual concerned. Quite aside from the serious difficulty (if not impossibility) of deciding in a particular instance, on a mere qualitative statement, whether the available ration is actually adequate, such an assumption ignores individual likes and dislikes with respect to certain foods or dishes which may operate markedly to modify the make-up of the individual diet.[12]

In the second category are the cases in individuals who are alleged to have consumed a "good" diet, either because a statement of the diet of the household of which the individual was a member was interpreted by the observer as adequate, or because the official ration of the dietary group (institution or camp) to which the individual belonged was believed to be satisfactory. Evidently here, too, the possibility of individual eccentricity of taste operating as a factor determining the make-up of the diet consumed is ignored. Nor is the vitally important possibility of error in the statement of the composition of the household diet or of a wide divergence between the official ration table and the ration as it reaches the individual sufficiently considered.

6. Cerri: Cited by Roussel (Footnote 1), p. 466.
7. Strambio: Cited by Sambon, L. W.: Progress Report on the Investigation of Pellagra, J. Trop. Med. & Hyg., 1910.
8. Goldberger, Waring and Willets: Pub. Health Rep. **30**: 3117-3131 (Oct. 22) 1915.
9. White: Report on an Outbreak of Pellagra Amongst Armenian Refugees at Port Said, 1916-1917, Cairo, Egypt, 1919.
10. Stannus: Tr. Roy. Soc. Trop. Med. & Hyg., 1920, p. 16.
11. Wheeler, G. A.: Treatment and Prevention of Pellagra by a Daily Supplemental Meal, J. A. M. A. **78**: 957 (April 1) 1922.
12. Goldberger, Joseph; Wheeler, G. A., and Sydenstricker, Edgar: Pub. Health Rep. **35**: 2709 (Nov. 12) 1920. Roberts, S. R.: Types and Treatment of Pellagra, J. A. M. A. **75**: 21 (July 3) 1920. Tanner, W. F., and Echols, G. L.: The Occurrence of Pellagra in Patients Apparently Receiving an Ample Diet, ibid. **76**: 1337 (May 14) 1921.

An interesting and instructive illustration of the serious error to which failure properly to consider and exclude such possibilities may lead and the perplexity to which it may give rise is to be found in Enright's [13] report of an outbreak of pellagra among some German prisoners of war in Egypt. After presenting the details of the outbreak, Enright concludes, in part:

> A critical analysis of the diet which these German pellagrins ate before capture and during their period of captivity prior to the onset of the eruption is sufficient to explode the food-deficiency theory as a predisposing factor. These diets were ample, both in quantity and quality, for any possible requirements, and were of such varied composition that it is perplexing to understand how they could be improved.

So far as I am aware, this report, by reason of the presentation of details that are almost invariably lacking in reports of individual cases, is among the most impressive instances in the literature of the apparent failure of diet to prevent pellagra. Yet the discussion [14] evoked by it, and the independent official investigation by Hammond-Searle and Stevenson,[4] developed facts which show that Enright's conclusion was not well founded, evidence being adduced which indicates that the diet actually consumed by some of the prisoners was not of the high quality (absolutely or relatively) that Enright had believed himself justified in assuming it to be.

We come, finally, to the cases of the third category, namely, those extremely rare and very interesting ones occurring in breast-fed infants. Here the explanation sought is why the breast milk, forming as it did a very large part if not the whole of the diet, failed to prevent the development of the disease. Voegtlin and Harris [15] have suggested the possibility that the mother's milk in such cases is deficient in vitamins and that this deficiency may be the responsible factor. Although more recent observations indicate, as will presently be seen, that the known vitamins are not essential pellagra-preventive elements, it is not absolutely excluded, though (in the present state of knowledge) highly improbable, that some as yet unknown dietary factor, conceivably a vitamin, plays this rôle. In the light of present knowledge it seems more probable that these very exceptional cases develop primarily because of a defect in the protein (amino-acid) factor arising possibly from (*a*) too low a plane of intake of the milk proteins resulting from a scanty supply of the breast milk; (*b*) a defective utilization of the protein ingested, or (*c*) from some combination of these. In this connection mention may also be made, as a very remote possibility, that in these rare instances the protein mixture of the mother's milk may itself be faulty. Thus, none of the observations of the categories considered can be accepted as negativing the conclusion that neither recurrent nor new cases of pellagra develop so long as a diet adequate for the needs of the individual is maintained.

At this juncture, the question may be asked whether the disease can be prevented otherwise than by diet. The claim has been made (and by Sambon [15] disputed) that a considerable reduction in prevalence has resulted in Italy from the prophylactic measures based on the spoiled corn theory. Since these measures concern themselves fundamentally with diet, this calls for no discussion in the present connection. Nor, for obvious reasons, need we be detained by the suggestion based on the water theory of Alessandrini and Scala.[16]

Other than these there is but one claim of sufficient importance to warrant any consideration at this time. This is that pellagra may be prevented by improved sanitation, particularly with respect to the disposal of human wastes. The fact that the disease is frequently associated with bad sanitary conditions and, more particularly, the report [17] of an apparently successful experiment to control the spread of the disease at Spartan Mills, S. C., by replacing an insanitary system of surface privies with a water-carriage system of sewage disposal, would seem to support this view.

With respect to the association of the disease with bad sanitary conditions, we have in our own studies failed to find a consistent correlation between them; our results indicate that the observed association may be explained as an expression of the well recognized relation of the disease to the condition of poverty. As for the Spartan Mills experiment, we [18] have elsewhere reported that our observations in the same locality in 1917 and 1918 (three years after the experiment was begun) showed the disease to be at least as prevalent in this village with its excellent sewerage system as in some other nearby villages with but the crudest, most insanitary methods of sewage disposal, thus clearly proving the failure of an excellent water-carriage sewerage system perceptibly to control the prevalence of the disease. In this connection it may be remarked that, while additional evidence of the failure of improved sanitary conditions perceptibly to control the occurrence of the disease could be cited, we know of not a single instance of a reduction in pellagra incidence that can properly be credited to the influence of improved sanitation.

Thus, in the light of the foregoing discussion the conclusion would seem justified that pellagra may be completely prevented by diet without the intervention of any other factor, hygienic or environmental.

DIET IN CAUSATION

The idea that diet had a relation to the production of pellagra has, in one form or another, been held by the vast majority of the students of the disease, beginning with Casal himself. The evidence from time to time adduced in support of the shifting theories of this relationship was all of it indirect until 1915. In that year, Goldberger and Wheeler [18] reported the experimental production of pellagra in the human subject as the result of feeding with a diet resembling that which in previous observations they had found to be associated with a high incidence of the disease. The subjects were all healthy, white adult male convicts who volunteered for the experiment; the controls were the other residents of the penitentiary, 120 in all, of whom forty-seven were under observation throughout the experimental period. While all of the controls remained free of any recognizable evidence of the disease, not less than six of the volunteers developed manifestations recognized by experienced consultants as those of pellagra.

In marked contrast with the outcome of this feeding experiment are the results of the attempts made by a number of observers to communicate the disease from

13. Enright, J. I.: Lancet **1**: 998 (May 8) 1920.
14. Lancet **2**, 1920.
15. Voegtlin and Harris, Bull. 116, Hyg. Lab., U. S. P. H. S., 1921.
16. Alessandrini and Scala: Contributo nuovo alla etiologia e patogenesi della pellagra, Roma, 1914.
17. Siler, J. F.; Garrison, P. E., and MacNeal, W. J.: Pellagra and Sewage Disposal, Arch. Int. Med. **19**: 683-694 (May) 1917.
18. Goldberger and Wheeler: Bull. 120, Hyg. Lab., U. S. P. H. S., 1920.

the sick to the well by the inoculation of blood, bodily discharges and the like. These attempts have in all reported instances failed,[19] nor is there any other evidence of an unequivocal character in support of the idea that the disease may be induced by any means other than diet. It appears, therefore, that in causation, just as in treatment and prevention, the evidence points to diet as the controlling factor.

ESSENTIAL CONTROLLING DIETARY FACTOR

The question now naturally arises as to what the essential dietary factor or factors are to which diet owes its power. Several important contributions bearing on this question have been made. The older (Marzari, Lusana and Frua, Calmarza), while in many instances interesting and suggestive, are, as might be expected, unconvincing and must be passed over; of the more recent, only those most pertinent can be considered.

In 1912, Funk provisionally included pellagra in a group of "deficiency diseases," all of which, he stated, could be prevented and cured by the addition to the diet of certain preventive substances called by him vitamins. More recently, Wilson,[20] studying diets known to have been connected with pellagra and comparing them with those of known value in curing and preventing the disease, has been led to conclude that the etiologic factor is a deficiency of protein, best determined by estimating its biologic value by means of Thomas' ratings.

Wilson's main conclusion is in agreement with the indications afforded by the results of our own studies[21] of the last four or five years. Of particular interest in the present connection is our[22] recent observation of the failure of what seemed to be a liberal intake of minerals and known vitamins (including the antirachetic factor) to prevent the recurrence of pellagra in five persons, thus definitely excluding these elements as essential factors in relation to the disease. This observation suggests that, of the dietary essentials at present known (and assuming that all are known), the protein factor alone was concerned in the failure to prevent the disease in those cases and, thus, that the dominating rôle of diet in the prevention and causation of pellagra is referable, primarily, to the character of the protein supply. Since the distinctive clinical physiognomy of the disease precludes the assumption of any but specific etiology, in the sense elsewhere suggested,[22] and since protein is now regarded as merely a complex of amino-acids, different for different proteins, the dominating rôle of diet in the development of the disease would seem referable to a specific quality of the amino-acid make-up of the protein supply. Just what amino-acid, combination or (within certain limits) combinations of amino-acids are primarily concerned remains for future study to determine. It should perhaps be noted that, as already suggested, the possibility of an as yet unappreciated or an unknown factor (conceivably a vitamin), alone or in combination with the amino-acid factor, is not absolutely excluded.

19. Buniva, cited by Roussel (Footnote 1). De Rolandis, ibid. Calmarza: Memoria sobre le pellagra, Madrid, 1870, p. 82. McCafferty: Gulf State J. Med. & Surg., 1909, pp. 228-236. Goldberger, Joseph: Pub. Health Rep. **31**: 3159-3173 (Nov. 17) 1916.

20. Wilson, W. H.: J. Hyg. **20**: 1-59 (July) 1921.

21. Goldberger, Joseph; Wheeler, G. A., and Sydenstricker, Edgar: A Study of the Diet of Nonpellagrous and of Pellagrous Households, J. A. M. A. **71**: 944-949 (Sept. 21) 1918; Pub. Health Rep. **35**: 648-713 (March 19) 1920.

22. Goldberger and Tanner: Pub. Health Rep. **37**: 462-486 (March 3) 1922.

CONCLUSIONS

Diet controls the course and development of the disease.

The relationship thus disclosed probably depends primarily on a specific quality of the amino-acid make-up of the protein supply.

OCCURRENCE AND SIGNIFICANCE OF SYSTOLIC MURMURS IN HEALTHY INDIVIDUALS *

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I have been unable to find in the literature a clear picture of the cardiac systolic murmur of the so-called functional type. There is confusion concerning what constitutes a functional murmur, and its significance. Necessarily, the actual interpretation of such a murmur and the conclusions to be drawn from its presence are obscure and vague.

Wilson [1] speaks of a very common murmur. This occurs in the pulmonic area, is systolic in time, and is usually not transmitted. To this murmur he gives the name of accidental instead of functional. He asserts that such a murmur is common in normal persons. Furthermore, he asserts that it is difficult to tell from the character of this murmur or, in fact, of any murmur whether or not it is due to a valve lesion. The relation of posture to the murmur is important. Often it appears only in the recumbent position. By way of explanation, Wilson offers the suggestion that such murmurs may be due to slight degrees of pressure or torsion on the vessels of the heart caused by the alteration of the position of the heart in the chest.

Mackenzie [2] speaks of the difficulty of distinguishing between organic and functional murmurs. He feels that a systolic murmur at the apex not transmitted may be functional to the same extent that one in the pulmonic area may be functional. A murmur in a person in robust health may often safely be called functional. It may even be a normal sign. That a murmur of appreciable intensity can occur in a perfectly normal heart is opposed to the ideas of many physicians. This Mackenzie freely admits. He holds, however, that the view that a heart with a murmur is necessarily not a normal heart has done much harm, more particularly in life insurance examinations and in examinations for fitness for military service.

The foregoing opinions simply serve to emphasize the uncertainty in regard to the origin and interpretation of the type of systolic murmur commonly called functional. We really know little of the causation of murmurs, and there is little justification to hold that all murmurs indicate organic abnormalities of the heart simply because some have been found to be associated with a pathologic condition of the heart.

In the examination of Harvard students before participation in athletic competition, there was an unusual opportunity to observe cases of murmurs of questionable significance. Above all, it was important that these murmurs be properly interpreted, since a really serious murmur, not regarded as such, might cause a

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1. Wilson, F. N.: Diagnosis of Chronic Heart Disease, in Nelson's Modern Medicine **4**: 423.

2. Mackenzie, James: Diseases of the Heart, Oxford Press Medical Publications, p. 326.

good deal of damage to the student. It was increasingly noted that what perhaps two or three years before was considered an organic murmur in a boy must actually be considered functional. Often a murmur noted in the examination of a freshman was found to disappear two or three years later. The constant recurrence of this led to much less significance being attached to such murmurs, and a much more liberal interpretation of them as functional.

For some time it had been the impression in the Department of Hygiene at Harvard College that many so-called organic murmurs were functional. There has been an increasing tendency to discard the explanation of an organic basis for the frequent murmur, particularly in the pulmonic area. With the hope of clarifying some of the existing confusion, special observations were made. The latter investigation involved, in the first place, a fairly positive decision of what murmurs were functional and what were organic. After that decision was made, two questions had to be answered. Is a man who had a murmur regarded as nonorganic as physically effective as a man with no murmur? And what chance is there of doing harm by treating men with such murmurs as if they were perfectly normal?

In the examination of eighty-four men entering athletic competition in 1919-1920, about 10 per cent. were found to have a murmur interpreted as functional. This murmur was commonly heard in the pulmonic area, was not transmitted, and was usually increased in the recumbent position. It was also occasionally heard at the apex, and sometimes in both places, and less commonly all over the precordia. The murmur was the sole abnormal finding by percussion, auscultation and in the history. It is believed that this murmur would be generally regarded as nonorganic. The men with this murmur were classified separately. All men were subjected to the following tests. The heart sounds were ausculted with the subject in an erect position with the breath exhaled for perhaps twenty seconds. The same was done with the subject in a recumbent position. The 10 per cent. mentioned above, or eight men who already had such murmurs, showed a definite increase in the volume of sound by reason of this procedure. Twenty-five, or 30 per cent., of the eighty-four men were found to have no murmurs of any sort under these conditions. The remaining fifty-one men, about 60 per cent. of the men examined, showed a definite murmur, systolic in time, in the pulmonic area. This made fifty-nine men, or 70 per cent. of those examined in this manner, who had a systolic murmur. No apical or precordial murmurs could be produced by this method, the pulmonic area being the only place where any could be heard. In all cases this artificially produced murmur was loudest in the recumbent position.

With these results in mind, the same observations were carried out in 1920 and 1921 with the candidates for all the athletic teams in the university. This included track and cross-country, baseball, hockey, football, basketball, crew, soccer, lacrosse, wrestling, tennis, fencing, swimming and squash racket teams, comprising in all 506 men. This number was exclusive of six men who had a marked systolic murmur at the apex, which was transmitted to the axilla, and who, with other signs and a suggestive history, were regarded as having a probable organic valvular lesion. These men at once were excluded from athletic competition.

Here again, fifty-three, or about 10 per cent., of these men had murmurs which have been described above as functional. In forty of these cases the murmur was increased by the procedure given above. In 284, or 56 per cent., a systolic murmur was produced where none could be demonstrated before, 276 in the pulmonic area and eight at the apex. None of these murmurs were transmitted. This made 316 men, or 62 per cent., who showed some change in the heart signs as a result of this experiment, and a total of 337 out of 506, or nearly 67 per cent., of apparently normal men in whom a murmur could be demonstrated.

Apparently this simple procedure produced a murmur where none had been heard before in otherwise sound men. This would seem to indicate the relative unimportance of such murmurs, when appearing under ordinary conditions of medical examination, since in many cases they could be produced at will.

It should be said that often the records indicate that the same murmur is both heard and interpreted differently by different examiners. Variability in interpretation applies particularly to this type of murmur unless it is observed for some time. In these observations, however, the same man was able to observe all of the cases, and in this manner at least to establish a fixed basis for comparison. It is, of course, difficult to describe the intensity of a murmur. However, no murmurs of such feeble intensity that they were at all questionable were included. Only those murmurs were included which were easily heard and readily demonstrated to other physicians.

It was found that many of these men had been told that they had weak hearts and that they should indulge in no vigorous exercise, and that the tendency, as Mackenzie says, had been in many cases to exaggerate the significance of these murmurs. Often the result was that such men arrived in college with inadequate muscular development, and in many cases with very little physical stamina. This picture, taken in conjunction with other minor signs of imperfect function, such as an unstable blood pressure, rapid pulse, or a slight trace of albumin in the urine, tended to exaggerate the importance of the murmur. The impression of the examiners was that all these signs went to make up a picture of which the heart murmur was merely a component part rather than a cause. With this idea in mind, such men were allowed to exercise very much as they pleased under careful observation, reporting to the examiner every two or three weeks. It was somewhat surprising to find that often in a period of five to six months such men, after doing track work, wrestling, swimming, baseball and occasionally football, tended to be very much improved. In numerous cases the murmurs were appreciably diminished or had disappeared. Along with this there was a noticeable improvement in the general muscular development of the student and an increase of stability as denoted by his pulse, blood pressure, etc. Some men were found to have a louder murmur when tested after exercise at the time of the examination. They were also allowed to participate in competitive athletics of a fairly vigorous nature. A similar result was noticed in these cases. It was often found that a murmur which at first had been considered possibly organic, particularly in conjunction with other signs, was eventually considered functional. Experience tended to make these murmurs seem of less importance the more they were observed, and that the real benefit derived by these men from

exercise—and from competitive exercise under moderate strain—made this tendency even stronger.

The practical conclusion of such observations has been that a man with a murmur interpreted in this liberal fashion as functional is allowed under observation to go into any sport that he chooses, crew, distance running and football not excluded. These men were subjected to various tests, which were particularly useful in the study of the condition termed "effort syndrome," with which many physicians renewed their acquaintance during the war. The heart is ausculted in a recumbent position, as well as the erect position, and after a few minutes' vigorous exercise. Any marked variability in action or rate of the heart, blood pressure, etc., or its symptoms is noted. If such a man shows an increased murmur after exercise, it is deemed necessary to keep him under observation for a month or six weeks at intervals of perhaps two weeks or more. If he does not, the murmur is disregarded beyond being a matter of record and being noted for comparison in his reexaminations during the season. Numerous instances have been found in which a murmur increased by exercise has been changed, after a month or more of vigorous athletics, so that it is not increased and sometimes changed enough so as to disappear. Whether or not this is due to simple increased muscular efficiency of the heart is difficult to say, though it seems possible. There has been so far no case in which harm has been done by this procedure, and no case in which a serious murmur has been found to develop. Most of these men in the questionable group show objective improvement in other ways beside the subsiding of the systolic murmur that they have shown. They show usually a tendency to stabilize blood pressure and to improve any nervous instability which they may have. Albuminuria, if present, may come or go, independently of what they do athletically. Subjectively, they invariably say that they feel much better than before they indulged in competitive exercise.

Whether or not the fact that this phenomenon occurs solely in the definite age group as represented by the college student is difficult to say. We can only say that the experiment here noted was confined entirely to such a group. What seems more important, however, is that this interpretation of a functional murmur has been evolved from the results of these simple experiments, and from the observations on men over two or three years before it was tried, It would seem that a man with a functional murmur could be considered as normal for all purposes of athletic competition. In other words, as far as doing himself damage was concerned, such a man might do as much as he was able, although his physical ability would not be that of a man who presented no such murmur.

It was noted that in some twenty-five men known to be remarkable athletes, no murmurs could be found by any procedure, experimental or otherwise. This would seem to put the so-called functional murmur in the class with functional albuminuria, as one of the criteria separating the nearly perfect physical specimen from what we are pleased to term the normal individual. It would not show that the so-called normal individual could suffer any great harm from undergoing the strain of ordinary athletic competition. The heart being a muscle like other muscles of the body, it may be that these few perfect individuals were possessed of better muscle tone there as well as in other portions of the body. In other words, these individuals were more efficient physically than those who had these functional murmurs. This would seem to put functional murmurs in the class of findings which may eventually help us to establish a standard of functional efficiency.

Physical examinations have not as yet satisfactorily explained why, of two men with nearly the same physique and no particular defects, one man can do much more than the other, particularly under strain. This was demonstrated during the war. It was difficult to tell beforehand who would "stand the gaff" and who would not.

Some sort of functional examination based on standards which will enable one to prophesy a man's efficiency would seem to be the next step in physical examinations. So far there seem to be few such standards established, and it may be possible that functional murmurs may furnish one of these standards.

CONCLUSIONS

These somewhat fragmentary observations would seem to show that:

1. The systolic murmur in the pulmonic area, even in an individual with unstable blood pressure and other signs which might disturb a physician, is a physiologic phenomenon which is yet to be explained.
2. Such murmurs need not bar men of the college age from strenuous exercise under some strain.
3. Exercise under these conditions has seemed to improve rather than harm the health of these men, and has served at the same time to demonstrate that they are not quite so efficient physically as those without demonstrable or producible murmurs.
4. The consideration of these murmurs may be a step toward determining in advance a man's functional efficiency in meeting competition not only in athletics but perhaps in life in general.

THE MEDICAL CERTIFICATE OF DEATH

A PROCEDURE TO MAKE THE STATEMENT OF CAUSE OF DEATH RELIABLE

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The director of the United States Bureau of the Census is constrained each year to introduce his report on mortality statistics with the admission that the country as a whole has very incomplete records. The invaluable figures and tables of the report concern only that part of the United States termed the registration area. This area has been uninterruptedly extending, and is still growing. In 1880, Massachussetts, New Jersey and the District of Columbia comprised the registration area, accounting for only 17 per cent. of the population, while in 1919 it comprised thirty-three states, the District of Columbia and eighteen cities, accounting for 81.1 per cent. of the population. In 1920, Nebraska was found eligible and included. But there are still fourteen states with such incomplete death registration that the federal statisticians do not consider their certificates worthy of recording.

UNRELIABILITY OF STATISTICS OF CAUSES OF DEATH

While this concerns all classes of citizens, and particularly those entrusted with making laws, there are inaccuracies in the mortality statistics for which the

medical profession is responsible. In 1919 the Bureau of the Census found it necessary to classify 15,603 causes of death as ill-defined diseases, and in 1920, 15,505. On every one of these certificates a physician certifies his failure to define a fatal illness so that the statisticians may know what the disease or injury was.

Medical science lacks a common terminology. If typhoid fever were so called by all physicians, the statisticians would rapidly compile an accurate typhoid fever mortality; but typhoid fever is also called abdominal fever, typho-enteritis, enterica, typhogastric fever, and other undesirable names; diphtheria may lurk under such terms as acute exudative angina, malignant tonsillitis, croup and fibrinous laryngitis; and almost any malady may be shrouded in such terms as abdominal disease, atrophy, bilious catarrh, capillary congestion, colliquative fever, diathesis fever, visitation of God, and want of vitality. While almost every disease has more than one name, there are names by which it may unmistakably be identified by the statistician. The lack of uniform names for diseases and the physicians' indifference toward the certification of deaths are the principal obstacles to accurate statistics of causes of death.

The Bureau of the Census and state registrars are untiring in their efforts to overcome these difficulties. To every physician in the country the Bureau of the Census sends pamphlets calling attention to the fundamental importance of precise and complete statements in death certificates. "Relation of Physicians to Mortality Statistics" and "Physicians' Pocket Reference to the International List of Causes of Death" are two pamphlets undoubtedly well known to most physicians. The state registrars distribute manuals which explain the state vital statistic laws, and they usually include a list of unsatisfactory and nonacceptable terms. About two years ago the Bureau of the Census published the "Standard Nomenclature of Diseases and Pathological Conditions, Injuries, and Poisonings for the United States," to interest the medical profession in uniformity of names. This was a step in the right direction; but, obviously, a long time will elapse before any improvement from this source will be reflected on the cause of death statements.

THE ST. THOMAS SYSTEM OF DEATH CERTIFICATION

With these discouraging facts disclosed, it may appear utopian to assert that with the cooperation of the medical profession a procedure may be established which will effect an efficient registration of the causes of death. The principle of the system recommended is an authority to define reliable statements of cause of death, vested in the state registrars. The key to its application is a list of terms to be used as statements of the cause of death. The method of applying this system may be described more readily if, as an illustration, its introduction and operation in St. Thomas, Virgin Islands, is outlined.

Three of the Virgin Islands, St. Thomas, St. Croix and St. John, were added to the insular possessions of the United States in 1917. The President appointed an admiral in the Navy as governor, and a group of naval officers were assigned to fill the various administrative positions. Several medical officers were included in this staff. The government was to be administered according to laws made under the Danish rule in force at the time of the transfer, and such other laws as might be enacted by the native "colonial councils."

The law governing the registration of deaths was inadequate in its provision for a medical certificate of death. A bill to provide for the registration of births and deaths was therefore drafted and introduced in the colonial councils. It passed the council for St. Thomas and St. John without any changes in the provisions relative to the death registration, and became effective, Jan. 1, 1919. The fate of this bill in St. Croix will be referred to in another connection. The bill as passed in St. Thomas was patterned after the so-called "model bill," which has served as the prototype for vital statistic laws in many states in the registration area.

A change of fundamental importance concerning the medical certificate of death was made. The St. Thomas

Indefinite terms used in reporting deaths	Further information required for proper classification
Carbuncle	Was this anthrax or malignant pustule? Was it caused by diabetes?
Carcinoma	What organ or part of the body did the carcinoma affect?
Cardiac asthma	Name the form of heart disease causing death.
Cardiac asthenia Cardiac debility Cardiac failure Cardiac weakness	These returns are generally equivalent to "heart failure," a return which should never be made nor accepted. See "Heart failure."
Caries	State location and cause. Was it tuberculous?
Casualty	Give nature of accident.
Catarrh	An unsatisfactory statement. Give location and preferably make a proper statement of disease causing death.
Catarrh of bowel	Was this diarrhea or enteritis?
Catarrh of lungs	Was this acute or chronic bronchitis, bronchopneumonia, or pulmonary tuberculosis?
Catarrh of stomach	Very indefinite and frequently secondary to other diseases. Name disease causing death.
Cellulitis	Give location and cause. Was it erysipelas? Was it puerperal or traumatic?
Cerebral coma	"Coma" is necessarily cerebral as resulting from interference with the functions of the brain, but the cause of it may vary widely. Was it from cerebral hemorrhage, Bright's disease, etc.? Was it due to violence? If so, give nature of accident.

Page from a manual for local registrars in one of the registration states, showing a part of the list of indefinite terms, held unsatisfactory as statements of cause of death.

law provides that "only statements declared by the registrar to be reliable statements of cause of death shall be held sufficient for the issuance of a burial or removal permit." In the model bill the corresponding provision reads: "Indefinite and unsatisfactory terms, denoting only symptoms of disease or conditions resulting from disease, will not be held sufficient for the issuance of a burial or removal permit; and any certificate containing only such terms, as defined by the state registrar, shall be returned to the physician or person making the medical certificate for correction and more definite statement." Thus, the St. Thomas registrar was to inform the physician what terms to use, while the state registrar is charged to define such terms as may not be used as statements of cause of death.

The state registrars usually compile a list of indefinite and unsatisfactory terms, which they request physicians to avoid. Instruction to local registrars as to what procedure to follow in case these unsatisfactory

terms were used is given. The accompanying page reproduced from a local registrars' manual will serve to illustrate this point.

This procedure, at its best, is imperfect. The list of unsatisfactory terms is never complete, and other terms equally ill defined will be used. This leads the local registrar at times to use his own judgment in passing upon the reliability of a medical certificate of death, and places the physician in the embarrassing position of having his ability to state the cause of death questioned by a layman. Instead of this, the rôle of the local registrar should be merely a checking of the physician's statement against a definite and authoritative standard.

The elaboration of a standard list of terms acceptable as statements of cause of death was the initial step in the task assigned the St. Thomas registrar. This list was edited as a nomenclature of diseases and conditions [1] in which the reliability of each title as a statement of cause of death was appraised. The style of this nomenclature is shown in the accompanying table.

The titles were obtained principally from the Bellevue Hospital Nomenclature of Diseases and Conditions. The roman numerals in the second column refer to a classification of the titles as to their reliability as statements of cause of death:

Class I. Reliable statement of cause of death without necropsy or other verification.

Class II. Reliable statement of cause of death when verified by necropsy.

Class III. Reliable statement of cause of death when verified by necropsy or operation.

Class IV. Reliable statement of cause of death when verified by necropsy or confirmatory laboratory tests.

Class V. Reliable statement of cause of death when verified by necropsy or demonstrations of the etiologic organism.

Class VI. Reliable statement of cause of death when supported by a statement of complications or other conditions adequate to cause death.

Class VII. Inadequate as statement of cause of death, and not to be used as such.

STYLE OF NOMENCLATURE OF DISEASES AND CONDITIONS, VIRGIN ISLANDS OF THE UNITED STATES

International Number*		Reliability as Statement of Cause of Death	
5		V	Malaria
7		I	Measles
13		VI	Mumps
31		V	Tuberculosis, chronic pulmonary
41		VII	Septicemia
57		IV	Diabetes mellitus
92		II	Embolism of pulmonary artery
101	(a)	I	Pneumonia, lobar
118		III	Hernia, ventral, strangulated
146		I	Septicemia, puerperium

* Third decennial revision, 1920.

Physicians and local registrars were advised that only nomenclature titles should be used in the medical certificate of death, and that no statement of the cause of death would be held reliable unless the supporting data or other verification as prescribed in the nomenclature were furnished. Exception would be made only when the physician was unable to obtain the data required, as in the case of relatives refusing necropsy; but in such a case the fact that the supportive evidence could not be obtained and the reason for it had to be stated.

1. Hakansson, E. G.: Nomenclature of Diseases and Conditions, Virgin Islands of the United States, Government Printing Office, 1919.

The St. Thomas certificate of death conformed in all points of importance to the medical certificate of death of the "Standard Certificate of Death" edited by the Bureau of the Census; the questions appearing in this blank are here reproduced.

MEDICAL CERTIFICATE OF DEATH

16 DATE OF DEATH (month, day, and year) 19

17 I HEREBY CERTIFY, That I attended deceased from ..... 19.., to ..... 19.., that I last saw h.... alive on ..... 19.., and that death occurred, on the date stated above, at .....m. The CAUSE OF DEATH* was as follows:

.....

.....(duration) .....yrs. .....mos. .....ds.

CONTRIBUTORY (Secondary) .....

.....(duration) .....yrs. .....mos. .....ds.

18 Where was disease contracted if not place of death?.....

Did an operation precede death?..... Date of.....

Was there a necropsy?.....

What test confirmed diagnosis?.....

(Signed)....., M. D.

, 19 (Address)

* State the DISEASE CAUSING DEATH, or in deaths from VIOLENT CAUSES, state (1) MEANS AND NATURE OF INJURY, and (2) whether ACCIDENTAL, SUICIDE, or HOMICIDAL. (See reverse side for additional space.)

Medical certificate of death of the "Standard Certificate of death" edited by the Bureau of the Census.

Among the titles in the table showing the style of nomenclature, "Measles," "pneumonia, lobar," and "septicemia, puerperium" belong to Class I, "reliable statement of cause of death without necropsy or other verification," and may be used as statements of cause of death without supportive data of any kind. "Embolism of pulmonary artery" is in Class II, "reliable statement of cause of death when verified by necropsy," and as a statement of cause of death must be verified by necropsy. An affirmative answer to the question, "Was there a necropsy?" would thus make the statement satisfactory. If a necropsy was not granted, a statement of this fact on the reverse side of the certificate where space was provided for such purpose would be required. A death from "hernia, ventral strangulated," a title of Class III, would require verification by necropsy or operation. The only entries required for verification by operation would be an affirmative answer to the question, "Did an operation precede death?" and the date of the operation. "Diabetes mellitus" is a title from Class IV, "reliable statement of cause of death when verified by necropsy or confirmatory laboratory tests." An entry after the question, "What test confirmed diagnosis?" showing the diagnostic urine findings or a necropsy would be required to support this title as a statement of cause of death. "Chronic pulmonary tuberculosis," a title in Class V, "reliable statement of cause of death when verified by necropsy or demonstration of the etiologic organism," would have to be supported by a necropsy or by a statement that *B. tuberculosis* was found in the sputum in answer to the question, "What tests confirmed diagnosis?" "Malaria," also a title of Class V, would have to be similarly verified by necropsy or finding of the causative plasmodium. "Mumps" as a statement of cause of death is in Class VI, "reliable statement of cause of death when supported by a statement of complications or other conditions adequate to cause death." It represents a number of diseases which rarely are fatal except through complications. The registrar therefore

desires to know the complications or other conditions adequate to cause death. Ample space for such statement is provided under the heading of contributory (secondary) causes, and on the reverse side of the death certificate. What some physicians call septicemia offers a more complicated problem. The term belongs to Class VII, "inadequate statement of cause of death and not to be used as such." It would be necessary for the physician to investigate further to find the cause of the septicemia and the primary cause of death, and then give a statement of cause of death accordingly.

This system worked satisfactorily. It had no loopholes for indefinite statements of the cause of death. With an occasional exception, the statements of cause of death were reliable as required in the nomenclature, the exceptions coming under the provision above mentioned, namely, that supportive data would be waived when the physician was unable to obtain them. The result of the first year, 1919, was perfect with 100 per cent. reliable statements of cause of death.[2]

In order to emphasize the necessity of precise instruction to physicians, the contemporary experience with death registration in St. Croix may be referred to. The article in the bill providing that "only statements declared by the registrar to be reliable statements of cause of death shall be held sufficient for the issuance of a burial or removal permit" did not receive the approval of the legislature of this island, but was changed to allow that the statement of cause of death may even be omitted if the word "natural" is entered. This practically tied the hands of the registrar relative to any control of the statement of cause of death. The only thing he could do was to engage the interest of the physicians and ask for their voluntary cooperation. The result was another example of the utter failure of such a procedure; 12.2 per cent. of the death certificates registered under this law in 1919 were worthless for the purposes of cause of death statistics, and had to be placed in the class of ill-defined diseases.

SIMILAR SYSTEM APPLICABLE IN THE UNITED STATES

If this description has conveyed an accurate picture of the St. Thomas system of death registration, it should be obvious that a similar system is applicable to any state or other unit of the United States. Its introduction involves (1) an amendment to the paragraph of the state vital statistic laws to the effect that the state registrar be empowered to declare what statements of cause of death shall be held sufficient for the issuance of burial permits, instead of the authority to define the terms not to be held sufficient for the issuance of burial permits, and (2) the elaboration of a list of acceptable statements of cause of death with appropriate instruction in regard to its use. Should the future progress in death registration follow along these lines, it is desirable that the list of reliable statements of cause of death be accomplished before any state law is amended as indicated above. The initiative recently taken by the Bureau of the Census in editing a standard medical nomenclature suggests that this federal agency may undertake the publishing of such a standard list of reliable statements of cause of death. The American Medical Association or the American Public Health Association may direct its interest in vital statistics into this channel. The availability of a list of this kind would be a forceful impetus to legislate for its use; and, in case the necessary authority should be granted by state legislatures, state registrars would undoubtedly be happy to adopt it instead of working out their own lists. One standard for the whole country could thus be expected. To hasten this event, the Bureau of the Census could possibly make the use of this standard list a condition for membership in the registration area.

The compilation of a satisfactory standard list of reliable statements of cause of death should meet no insurmountable obstacles. With the aid of such nomenclatures as those issued by the Royal College of Physicians of London, and Bellevue Hospital, New York, and the Standard Nomenclature of the Bureau of the Census, the best terms could readily be selected. The evaluation of these terms as statements of cause of death and the determination of the kind of supportive evidence needed for each would be connected with some difficulties; but with combined efforts of statisticians, clinicians and pathologists it could undoubtedly be worked out to meet with the approval of the medical profession. The number of titles in a list of this kind need not exceed 1,500, since only one name of each disease and injury that may cause death would have to be included. It could be published as a pocket sized booklet less than 1 cm. thick, a point of some importance.

Some readers may question whether a system of death certification prescribing the use of certain terms will ever be popular with the medical profession. This may occur particularly to the physicians who connected themselves with the medical corps of the government services during the World War, and who probably found the use of their nomenclatures a source of annoyance instead of help. These physicians undoubtedly missed the opportunity of seeing the work done in filing rooms and offices in which the statistics of the great medical work of the war were compiled, or failed for some other reason to appreciate the necessity of systematic medical records. To any one who has worked with records of morbidity and mortality or to those who have had to look for facts in statistics, the fundamental importance of accuracy and explicit terms in the primary records of disease and death is obvious. To them, and undoubtedly to others who have become interested, a list of acceptable statements of cause of death becomes an assistance instead of a burden, offering definite assurance that one's statements will have their full and correct value.

With accurate medical certificates, the statistician can furnish the true death rates for every disease and injury causing death, and the death rates of these by age, sex, race, month and other conditions, the value of which in preventive and curative medicine can hardly be overestimated. With ambiguous medical certificates of death, mortality statistics become not only worthless but misleading. The condition in the United States at present is somewhere between those two points.

If the assumption that the majority of physicians furnish reliable statements of cause of death is correct, it follows that the medical profession is being robbed, so to speak, of accurate statistics of the causes of death through the indifference of a minority of its members. It appears, then, that the rational policy of the majority would be to favor a system which would compel the indifferent minority to ascertain and state in definite terms the true cause of death whenever possible.

2. Hakansson, E. G.: Birth and Mortality Statistics of the Virgin Islands, Government Printing Office, 1920.

SUMMARY

1. The statements of causes of death in the United States are to a great extent ill defined and unreliable, a condition seriously impairing the value of statistics of the causes of death.

2. A system of death registration giving a hundred per cent. satisfactory medical certificates has been effected in St. Thomas, Virgin Islands of the United States.

3. The principles of this system are applicable in the United States, and could be introduced and successfully applied if the full and active cooperation of the medical profession were obtained.

THE VITAL CAPACITY OF "CARDIACS"

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Spirometry has been employed at variable intervals during the past seventy-five years as a means of rating abnormal conditions of the respiratory organs, but, owing to certain mechanical defects in the construction of the different spirometers, the results have not been very satisfactory. In recent years a new impetus has been given to the performance of tests of this kind by the invention of the piston-recorder and the various forms of bellow-plethysmographs. No doubt, these instruments serve as much more accurate means for recording the volume of the respiratory air than the old type of Hutchinson spirometer.

It is well known that dyspnea is one of the earliest symptoms of heart disease. Accordingly, it is regarded by physicians as a most important diagnostic sign of functional impairments of this organ; in fact, the degree of dyspnea, in relation to the general muscular efforts required to produce it, is frequently employed as a measure of the physical efficiency of the patient. In order to be able to demonstrate this relationship more clearly, repeated attempts have been made in the last few years to discover a more definite expression of the respiratory capacity of normal persons as a standard of comparison with the capacity of persons suffering from various organic and functional disorders of the heart and adjunct organs.

The experimental studies pertaining to this subject-matter are very numerous. It is not the purpose of this brief communication to enumerate them in abstract form, but merely to call attention to an error which has crept into this literature. It is frequently stated, and particularly in reviews of the papers of Peabody,[1] McClure and Peabody,[2] Wilson and Edwards,[3] Ulrich and Nathanson,[4] and others, that the vital capacity of "cardiacs" may be from 40 to 70 per cent. below the normal. The latter value is usually determined by calculation in accordance with the body surface of the person, although it may also be derived from the average figure obtained from a large number of spirometric tests made on persons of different height and weight.

As generally employed in discussions pertaining to functional disorders of the heart, the term "cardiac" really refers to any disease condition of this organ whether valvular or myocardial in its character. Thus, owing to the fact that a very general meaning is often given to this term, the reader may obtain the erroneous impression that all persons afflicted with organic or functional diseases of the heart possess a subnormal vital capacity. As may readily be gathered from the accompanying table containing the pertinent data regarding fifteen students with unmistakable evidence of heart disease, this inference is by no means correct.

THE VITAL CAPACITY OF "CARDIACS"

Case No.	Character of Lesion	Age, Years	Height, Cm.	Weight, Kg.	Av. Vital Capacity, C.c. Calculated	Av. Vital Capacity, C.c. Obtained	Difference Above or Below Calc. Value	Pulse Rate, Min.	Blood Pressure, Mm. Hg
1	Aortic regurgitation (severe); mitral stenosis and regurgitation (mild)	25	176	75	4,200	4,650	+450	85	142.0 (60.0)
2	Aortic regurgitation (severe)	24	170	60	3,800	3,525	−275	82	140.0 (70.0)
3	Mitral stenosis (severe)	28	180	69	4,700	4,850	+150	87	126.0
4	Mitral stenosis (moderate)	24	175	65	4,100	4,425	+325	84	125.0
5	Mitral stenosis (mild)	22	180	70	4,700	5,560	+860	78	125.0
6	Mitral stenosis, tachycardia, extrasystoles	25	166	68	3,700	4,725	+325	90	140.0
7	Mitral stenosis and regurgitation (moderate)	29	173	64	4,000	3,950	− 50	84	135.0
8	Mitral stenosis (moderate)	25	169	68	3,700	3,825	+125	82	130.0
9	Mitral stenosis (severe), aortic regurgitation (mild)	25	171	70	3,800	3,775	− 25	86	134.0
10	Mitral stenosis (severe), aortic regurgitation (moderate)	23	168	68	3,700	4,450	+750	80	130.0
11	Mitral stenosis (severe)	26	163	65	3,700	3,750	+ 50	86	134.0
12	Mitral stenosis (moderate)	25	170	68	3,800	3,850	+ 50	84	130.0
13	Aortic regurgitation (moderate)	23	168	70	3,700	3,710	+ 10	92	142.0
14	Aortic regurgitation (moderate), mitral stenosis (mild)	25	173	71	4,000	4,100	+100	87	135.0
15	Tachycardia, extrasystoles, slight murmurs	22	179	77	4,400	4,525	+125	72	125.0

The spirometer used for these measurements has recently been devised by me[5] for the purpose of registering the tidal air as well as the inspiratory or expiratory quantities of air of the larger mammals. By means of a special valve, permitting a reversal of the recording mechanism, practically unlimited quantities of air may be made to pass in a continuous stream through this instrument.

It is evident that the vital capacities here recorded closely approach the calculated normal values, and in several instances actually exceed them. A glance at the columns containing the different values for the pulse rate and blood pressure will show that these lesions were all well compensated for, although care was taken not to select these cases in a manner to favor the results. Hence, it may be concluded that a marked decrease in the vital capacity actually signifies

1. Peabody, F. W.: Clinical Studies on Respiration, Arch. Int. Med. **20**: 433 (Sept.) 1917.

2. McClure, C. W., and Peabody, F. W.: Relation of Vital Capacity of Lungs to Clinical Condition of Patients with Heart Disease, J. A. M. A. **69**: 1954 (Dec. 8) 1917.

3. Wilson, M. G., and Edwards, D. J.: Vital Capacity of Lungs and Its Relation to Exercise Tolerance in Children with Heart Disease, Am. J. Dis. Child. **22**: 443 (Nov.) 1921.

4. Ulrich, H. L., and Nathanson, M. H.: Minnesota Med. **4**: 721 (Dec.) 1921.

5. Burton-Opitz, Russell: J. Lab. & Clin. Med., to be published.

cardiac decompensation, and that the percentage indicating its reduction may be employed as a measure of the failure to compensate. The further assertion that this factor, embodying the vital capacity, portrays the condition of the patient more plastically than the blood pressure and pulse rate, may justly be questioned, although it must be granted that it constitutes an important objective record in the diagnosis and prognosis of practically all cardiac disorders. It is to be emphasized, therefore, that the vital capacity does not suffer a material change in those "cardiacs" whose compensation is adequate.

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LEUKOCYTIC REACTIONS TO MORPHIN *

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The need for some agent or method to increase the number of leukocytes in effective circulation, and especially the polymorphonuclear neutrophils in certain infectious diseases and other conditions, has long stimulated research in this field. Results, however, have been negligible.

Gehrig,[1] in a general review of the question, lists several score of agents affecting the white blood cells, but the evidence in regard to their action seems to him to be contradictory. For example, morphin is cited as causing leukocytosis [2] and leukopenia,[3] and as having no effect on the leukocytes at all.[4] This conflicting testimony, as presented in Gehrig's review, is so unsatisfactory as to be worthless. A closer examination of the original papers themselves, however, tends to point otherwise. Achard and Loeper [3] give no figures or experimental data at all, but merely state that in their opinion morphin causes a leukopenia and a reduction in the number of polymorphonuclear neutrophils. In an article on quinin, Maurel [4] gives no data either, but simply infers that morphin has no effect on the leukocytes. On the other hand, Hericourt and Richet [4] present many figures showing that chloral and morphin in combination have no effect on the leukocyte count

TABLE 1.—EFFECT OF SUBCUTANEOUS INJECTIONS OF MORPHIN SULPHATE ON THE LEUKOCYTIC AND DIFFERENTIAL COUNTS IN FOUR RABBITS

Hours After Drug	Average White Blood Count for 4 Rabbits	Per Cent. of Normal Leukocytes	Average per Cent. Polymorphonuclears	Per Cent. of Normal Polymorphonuclears	Average per Cent. Lymphocytes	Per Cent. of Normal Lymphocytes
0	6,710	100	62	100	34	100
½	6,180	91	72	116	24	70
1	5,420	80	74	119	21	61
2	7,250	107	76	122	21	61
4	10,480	155	76	122	21	61
6	16,370	243	78	125	19	55
24	6,800	101	61	99	33	97

in rabbits, and then conclude that neither separately has any effect. In a study of the leukocytic effects of pyretics and antipyretics, Bohland [2] found that morphin caused a leukocytosis in man following the injection of 0.01 gm. His work was carefully controlled in regard to the diurnal variation under the conditions of his experiments, and a typical result showed an increase from a normal white blood cell count of 6,386 to 13,832 six hours after morphin, with a return to 7,805 nine hours after the drug was given. It would seem, therefore, that none of the work on the leukocytic effects of morphin as reviewed by Gehrig were worth discussion except Bohland's. The experiments of Cloetta [5] are not mentioned by Gehrig at all. In a study of experimental morphin tolerance, this investigator noted that an injection of 0.1 gm. of morphin in rabbits produced an initial leukopenia, followed by a leukocytosis developing most markedly from three to four hours after the injection. His results are confirmed in our work. In rabbits in which a tolerance to morphin had been established, Cloetta found the same leukocytic reaction to morphin as in normal animals. The leukopenia seemed to him to coincide with the period of deepest depression.

Results are here presented for the effect of morphin on the leukocyte counts in rabbits, dogs and men. In four rabbits, a uniform dosage of 4 mg. of morphin sulphate per kilogram of body weight was used; in fifteen dogs, dosages varying from 1 to 10 mg. per kilogram of body weight, and in four men, the standard

TABLE 2.—EFFECT OF SUBCUTANEOUS INJECTIONS OF MORPHIN SULPHATE ON THE LEUKOCYTIC AND DIFFERENTIAL COUNTS IN FIFTEEN DOGS

Hours After Drug	Average White Blood Count for 15 Dogs	Per Cent. of Normal Leukocytes	Average per Cent. Polymorphonuclears	Per Cent. of Normal Polymorphonuclears	Average per Cent. Lymphocytes	Per Cent. of Normal Lymphocytes
0	8,700	100	80	100	16	100
½	7,600	87	80	100	16	100
1	11,500	132	85	106	11	68
2	12,600	44	87	108	11	68
4	12,300	141	86	107	11	68
6	11,900	136	85	106	12	75
8	10,900	125	84	104	14	87
18	10,100	116	82	102	15	93
24	9,300	106	82	102	14	87

quarter grain, regardless of weight. The injections were all subcutaneous. Blood was drawn by a small syringe from the ear veins of the rabbits, and from the femoral artery in the dogs; it was transferred to a small, clean, sterile dish, and then drawn into the pipets for counting. The object of this procedure was to obtain circulating blood, as counts made on blood taken from ear pricks in animals are unreliable, not only because of inherent difficulty in getting real blood undiluted with excess of serum, but also because, as Ikeda [6] has shown, morphin reduces leukocytic emigration to the point of local injury. Blood was taken from the ear lobes and finger tips of the men. Two independent counts were made on the same sample from the animals, and in the men blood was drawn simultaneously from two points and counted independently.

The tables show the same general leukocytic reaction to morphin in rabbits, dogs and men, namely, a relatively slight leukopenia, lasting for about an hour after the drug, followed by a more pronounced leukocytosis maintained for ten hours or more, and returning to normal within twenty-four hours. The differential counts show a large relative increase in the number of polymorphonuclear neutrophils, with a diminution in the percentage of lymphocytes, and relatively insignifi-

* From the Physiological Laboratory, University of Wisconsin.

1. Gehrig: Ztschr. f. exper. Path. **17**: 161, 1915.
2. Bohland: Centralbl. f. inn. Med. **20**: 361, 1899.
3. Achard and Loeper: Compt. rend Soc. de biol. **53**: 217, 1901.
4. Hericourt and Richet: Compt. rend. Soc. de biol. **45**: 187, 1893. Maurel: Compt. rend. Soc. de biol. **55**: 367, 1903.
5. Cloetta: Arch. f. exper. Path. **50**: 476, 1903.
6. Ikeda, Y.: J. Pharmacol. & Exper. Therap. **8**: 137 (March) 1916.

cant changes in the percentage of the other leukocytic elements. This indicates an absolute increase in the number of polymorphonuclear neutrophils, with the absolute number of lymphocytes in the circulating blood remaining the same. In two dogs, not included in the tabulated data, a second injection of morphin at the time when the leukocytosis was marked, about four hours after the first injection, resulted in a further increase in the total number of white blood cells within an hour or so without any noticeable previous leukopenia.

Dr. C. H. Bunting and his assistants in the Pathology Department of the University of Wisconsin confirmed the general findings in rabbits, and sought for a possible explanation of the reaction in definite stimulation of bone marrow, but failed to find any evidence for this. In the light of forthcoming work from this laboratory indicating the production of a transitory but real acidosis under morphin, with an accumulation of acetone bodies in the blood, it is suggested that the leukocytic response to morphin may be one phenomenon in the general response of the body to reduced oxidation, with its accompanying slight generalized inflammation, as a result of the action of the drug.

TABLE 3.—EFFECT OF SUBCUTANEOUS INJECTION OF MORPHIN SULPHATE ON THE LEUKOCYTIC AND DIFFERENTIAL COUNT IN FOUR MEN *

Subject: E. D., aged 33, weight 140, in good health

Hours After Drug	Leukocytes per C.Mm.	Per Cent. Polymorphonuclears	Per Cent. Lymphocytes	Per Cent. Transitionals	Per Cent. Eosinophils	Respiration per Minute
0	8,500	75	24	0	1	12
1	7,700	72	24	4	0	10
2	9,200	80	17	3	0	9
4	9,000	81	18	1	0	9
6	10,200	80	19	1	0	7
8	11,600	80	19	1	0	7
10	11,100	..	..	..	..	10
22	9,200	81	17	2	0	12

Subject: A. M. C., aged 33, weight 160, rhinitis

Hours After Drug	Leukocytes per C.Mm.	Per Cent. Polymorphonuclears	Per Cent. Lymphocytes	Per Cent. Transitionals	Respiration	Pulse
0	8,700	71	26	3	16	64
1	6,800	69	25	6	20	56
2	11,400	77	19	4	16	56
3	11,100	79	18	3	12	56
5	11,000	80	17	3	16	56
6	11,400	79	20	1	18	56
8	11,400	..	..	..	18	54
11	11,800	78	20	2	18	54
22	7,800	72	25	3	18	54

Subject: C. E. M., aged 24, weight 176, in excellent health

Hours After Drug	Leukocytes per C.Mm.	Per Cent. Polymorphonuclears	Per Cent. Lymphocytes	Per Cent. Transitionals	Per Cent. Eosinophils	Respiration	Pulse
0	6,200	68	26	3	3	24	72
1	5,000	72	21	4	3	20	68
2	6,800	74	20	4	2	16	60
4	7,400	81	16	2	1	16	60
7	9,200	80	16	2	2	16	68
9	9,400	80	17	1	2	20	76
12	8,800	82	16	1	1	20	76
24	5,000	79	18	1	2	24	76

Subject: W. E. H., aged 26, weight 181, severe cold, rhinitis, tonsillitis, bronchitis, coughing and headache

Hours After Drug	Leukocytes per C.Mm.	Per Cent. Polymorphonuclears	Per Cent. Lymphocytes	Per Cent. Transitionals	Per Cent. Eosinophils	Respiration	Pulse
0	13,600	70	26	3	1	20	76
1	13,800	73	23	4	0	18	76
2	16,400	77	19	4	0	16	72
5	17,600	79	17	4	0	12	60
10	16,200	80	16	3	1	20	80
22	9,800	79	17	4	0	20	88

* Subjects fasted and rested in bed during experiment, and for twelve hours before.

It is obvious that, in estimating the diagnostic value of a white blood cell count after the subcutaneous administration of morphin, allowance must be made for the effect of the drug on the count. Whether this reaction to morphin gives the drug added clinical value is hardly a question for a laboratory worker to discuss.

RETINITIS OF HYPERTENSION PLUS NEPHRITIS *

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The changes that take place in the ocular fundus of persons who have disease of the kidneys and high blood pressure have been so fully described by oculists and internists that a review of their general characteristics is unnecessary. Salient features of the pictures presented have been described as characteristic of all the known causative factors, stress being laid on the edema of the papilla, the star figure at the macula, and areas of exudate lying in proximity to the disk margin. When white spots of exudate or degenerative processes have been prominent features of the retinal picture, the term albuminuric retinitis has been employed to name the condition. If, in the absence of characteristic white spots, there were marked vascular changes, renal disturbance would be suspected and the cardiorenal status of the patient investigated. Complicated pictures are encountered, and confused ideas of the causes and course of the changes seen with the ophthalmoscope are expressed in textbooks and special articles. Much of this confusion has arisen through the difficulty in determining the presence of renal diseases and the variation in classifications of renal diseases.

The introduction of new and important knowledge regarding the cardiovascular system has again opened the discussion with regard to the relative influence of this factor in contradistinction to nephritis in the production of retinal lesions, and has tended to make the ophthalmologist uncertain in his interpretation of findings. Thus, according to Rochon-Duvigneaud,[1] "The diseased kidney is the cause of the retinal lesions . . . in consequence of deficient elimination, and the retention of urea or some substance intimately related to urea." Schieck and Volhard[2] quote the same author to the effect that: "The diseased kidney influences the retina through a definite form of insufficiency of elimination. There is concerned the retention of nitrogen or of a substance that is intimately connected with it and which is thrown into the retina; the cause is not a definite kidney disease, not the contraction, but the azotemia." After reviewing the theories of retinitis, they assert, contrary to Rochon-Duvigneaud's theory, "If we ask ourselves to which remote effect of kidney disease the retinal lesions stand in compulsory relation, we must say, not to toxic uremia, azotemia, and disturbance of kidney function, not to the remote effect of edema . . . not to the degree of albuminuria and presence of casts . . . not to the qualitative or quantitative change in the urinary secretion, but singly and alone to the most

* From the Section on Ophthalmology, Mayo Clinic.

* Read before the Section on Ophthalmology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Rochon-Duvigneaud: Albuminuric Retinitis, Ophth. Rev. 31: 307-310, 1912.

2. Schieck, F., and Volhard, F.: Netzhautveränderungen und Nierenleiden, Zentralbl. f. d. ges. Ophth. 5: 465-470, 1921.

important remote symptoms of kidney disease, the origin of which is still entirely concealed in darkness, namely, *to the rise of blood pressure.*"

Albuminuric retinitis does not always indicate an incurable disease of the kidneys or of the cardiovascular system, as has been well demonstrated in the cases of war nephritis. Acute attacks of nephritis due to focal infection and with lesions of the retina have also been described. Considering the internist's difficulty in definitely recognizing and classifying the various types of nephritis, it would seem unwise to attempt to say that the occurrence of albuminuric retinitis indicates the presence of a particular type of nephritis, such as glomerular nephritis, and contracted kidney, or even to insist that nephritis is present at all in some cases. The essential features of the composite pictures that make up albuminuric retinitis, however, can be studied singly in connection with the general vascular system and the kidneys. The nature and course of the retinal disease can be conveyed to the internist more accurately through a careful description of the fundus than by any term that cannot be fully defined. The single features which in their entirety compose the retinal pictures have a definite significance, and the association of groups of features gives the best indication of the processes that are active in their production. Vascular changes are present in varying degree in all types of retinitis, and form the logical basis on which can be erected a useful classification without reference to the still unsettled classification of nephritis. The character and amount of change in the vessel walls can be studied as easily as any other single feature of the retina, and as the pathology of the vessels in several types of retinitis has been well described, it forms the groundwork for further studies of this condition. The working plan by which the studies are carried on at the Mayo Clinic has been described.[3] I now wish to present another group of cases in which nephritis occurs late, and as a secondary factor probably follows that uncertain condition known as essential hypertension.

The term retinitis of hypertension plus nephritis refers to a series of changes produced in the retinal vessels and ocular fundus by an increase in blood pressure, and other changes resulting from chronic nephritis, or accompanying chronic nephritis. The term is applied to the retinal picture, which is characterized by arterial walls thickened through proliferation of the middle coats, leading to contraction of the arteries, narrowing of their caliber, and the reflex arterial stripe, arteriovenous compression, increased caliber of the veins, and hemorrhages and edema in the retina. The reduction in caliber of the vessels is more uniform in this condition than in primary arteriosclerosis. The arteries are not beaded, and there is little or no tendency to the formation of perivascular plaques or to the proliferation of new vessels, although the thickening of the arterial walls which has been designated arteriocapillary fibrosis[4] advances after a time to sclerosis, which in many respects simulates primary sclerosis of the arteries. There appear in the fundus small white isolated spots or confluent plaques and cream colored layers of exudate which produce a rather bright luster. In addition to this picture, considerable edema of the nerve and retina, recent showers of hemorrhages, and cotton wool patches of exudate indicate that another agent has become active in the production of retinal lesions. An attack of acute nephritis is to be expected and, I believe, nearly always occurs, giving the ophthalmoscopic picture which I have described as the retinitis of acute nephritis.[5] It is to be found in persons of any age in whom high blood pressure, essential hypertension, has been constant for a sufficient length of time to bring about the thickening of the walls of the artery, and it is most commonly found in persons whose blood pressure has been known to be elevated for several months or years.

The pathology of this type of vascular degeneration has been described by Gull and Sutton,[4] but at the time their studies were made little was known of the influence of variations of blood pressure, and essential hypertension was entirely unknown. Whether the contraction of the small arteries is the factor which produces the high blood pressure or the high blood pressure causes the arteries to become thickened is an unsettled question. However, it seems to be clearly evident that the blood pressure is raised in essential hypertension long before the contraction of the retinal arteries is noticeable, for in a great many persons having an essential hypertension, with diastolic blood pressure of 160 or more and a systolic of more than 200, the retinal vessels show not a single sign of thickening or other change. Also, persons having primary chronic nephritis will have high blood pressure for years without retinal signs until a definite renal break and retinitis of acute nephritis occur. On the other hand, whenever visible contraction of the arteries is found with arteriovenous compression, the diastolic blood pressure is almost invariably elevated. It also is quite true that persons whose retinal arteries give evidence of the thickening that is seen in essential hypertension of long standing are found to have cardiac hypertrophy and not infrequently albuminuria, headache, dizziness and other symptoms of chronic nephritis, but the presence of nephritis in such cases is difficult to prove even by urinalysis, chemical blood examination, and tests for renal efficiency.

Allbutt[6] quotes the opinion of many observers both in this country and abroad to show that there is a generally recognized malady characterized by continued elevation of the diastolic blood pressure in persons who, during life, gave no evidence of having nephritis, and whose kidneys at necropsy did not show, either macroscopically or microscopically, changes of nephritis. He also refers to the fact that some persons with chronic hypertenson often have albuminuria without nephritis. The arteries in the limbs and in the brain of such persons, he believes, have become thickened as the direct result of the increased intravascular load they are called on to carry, and that this thickening or sclerosis is independent of atheroma, toxic inflammation, or senile decadence. The thickening may be only connective tissue proliferation binding the vascular elements more closely together, or there may be actual hypertrophy of the middle coats or intimal lining of the vessels. He asserts that the stress and strain on the walls of the vessels from mechanical pressure is sufficient to produce these vascular changes.

The apparent thickening of the walls of the retinal arteries must be accounted for in some other way than by mechanical strain if it is true that a marked increase

3. Benedict, W. L.: Retinitis of Cardiovascular and of Renal Diseases, Am. J. Ophth. **4**: 495-499 (July) 1921; Retinitis of Acute Nephritis; Report of Six Cases, M. Clin. N. Am. **5**: 275-288 (Sept.) 1921.

4. Gull, W. W., and Sutton, H. G.: On the Pathology of the Morbid State Commonly Called Chronic Bright's Disease with Contracted Kidney ("Arterio-capillary fibrosis"), Med. Chir. Tr. **55**: 272-326, 1872.

5. Benedict, W. L. (Footnote 3, second reference).

6. Allbutt, C.: Diseases of the Arteries Including Angina Pectoris, London, the Macmillan Company, **1**: 280-371, 1915.

of intravascular pressure in an artery, the brachial for instance, is unaccompanied by increased intra-ocular intravascular pressure.[7] The fact that persons between the ages of 30 and 40 years are often known to have blood pressures well above normal for months or a few years, without any noticeable change in the retinal arteries, would lead one to suspect that the intra-ocular intravascular pressure is regulated by mechanisms outside the globe; in normal persons whose blood pressure is temporarily elevated by violent physical exertion, the absence of any noticeable change in the vessels of the fundus indicates a blood pressure control that prevents congestion of the fundus due to overfilling of the fine terminal vessels.

That this controlling factor is active in all persons at all times is not by any means to be accepted. Evidence is found in the congestion of the retina during attacks of migraine, in the marked tortuosity of vessels, and increased caliber of both arteries and veins in persons with migraine or epilepsy, that the vessels are at times subject to marked differences in intravascular pressure that leave permanent changes in their appearance.[8] The controlling factor, a vasomotor function, probably held in abeyance, or inhibited during attacks of migraine or epilepsy, is restored with the passing of the attack, and the normal relationship between vascular tension and cardiac force exists. Permanent changes in the blood vessels, however, result from this temporary overfilling. The blood pressure of a hyperpietic, however, has no such transitory course, and while the processes that lead to vascular changes may differ in many respects from those that bring about the vascular changes seen in persons with epilepsy and migraine, nevertheless, the changes are there and bear a special relationship to the continued high pressure within their walls. It rises gradually and remains on a fairly high level for years, unless means are brought about to reduce it.

With the gradual elevation of blood pressure and adequate cardiac compensation, early changes in the retinal arteries may not be visible with the ophthalmoscope. This is particularly true of young persons who have previously enjoyed good health. They may complain of inability to use the eyes for close work as usual, some frontal headache, and tenderness of the globes on pressure, but no structural lesions can be found to which their symptoms may be attributed. On the other hand, rapid increase in blood pressure not infrequently leads to tremendous edema of the nerve and retina, with hemorrhage and white spots about the macula, producing choked disk, star figures in the macular region, and even detachment of the retina. Such rapid rises in blood pressure, malignant hypertension, does not properly fall within the classification which we have under consideration. These illustrations are given merely to show that, under some circumstances, rise in blood pressure in the systemic vessels is accompanied by such marked and characteristic changes in the retinal vascular system that a causal relationship is not to be denied.

Our knowledge of the microscopic appearance of retinal arteries that have undergone thickening has not been materially increased since the time of Gull and Sutton,[4] who described the pathologic conditions of blood vessels of persons whose arteries were thickened, some of whom gave neither clinical nor postmortem evidence of nephritis. They found that, in the arterioles measuring about 0.3 mm. in diameter, the lumen of the blood vessel was about twice as great as the thickness of the wall; that is, on observing the vessel through the microscope, the thickness of its two sides or walls was found to equal the size of the lumen. That the thickening was generalized over the body appears from their studies also; for they say, "The morbid appearances here described were chiefly studied in the minute arteries and the larger capillaries of the pia mater, but, as we have said, the same may be seen in the arterioles of the kidneys, and, we may now add, of the skin, of the stomach, of the spleen, heart, lungs, retina, and so forth."[4] They further conclude: "This alteration is due to a 'hyalin-fibroid' formation in the walls of the minute arteries, and in 'hyalin-granular' changes in the corresponding capillaries. This change occurs chiefly outside the muscular layer, but also in the tunica intima of some arterioles."

Gull and Sutton recognized and described arteriocapillary fibrosis, without knowledge of the changes in blood pressure as now understood, and laid the foundation for the clinical distinctions between arteriosclerosis of atheroma, decadence and hyperpiesis. It was nearly forty-five years later that Moore[9] described the ophthalmoscopic picture of retinitis of arteriosclerosis, and separated from the composite picture of retinitis of albuminuria the single features which, taken together, comprise that group.

In the sclerosis of hypertension, the proliferation of the intima seldom amounts to complete occlusion of the lumen of the vessel as it does in the atheromatous type of sclerosis. Mostly, the thickening of the walls due to hypertrophy outside the lamina elastica gives the tubelike appearance to the artery and accounts for the straightening out of the bends. There is more elasticity to an artery so thickened than there is to one of the atheromatous type, which accounts for the difference in the angle of the arteriovenous crossing. Proliferation of new vessels characteristic of atherosclerosis comes as a result of the closing off of the lumen of the artery and widening of smaller arterioles and capillaries, until they carry sufficient blood for nourishment of the parts of the retina impoverished by the shutting off of the regular source of supply. So, too, one sees few or no ischemic areas in the fundus in early hypertension sclerosis; the visual function is not seriously impaired so far as visual fields will show, and entire occlusion of the arterioles with formation of new arteries is very seldom seen. Furthermore, the white plaques around the second and third divisions of the arteries and in the retina around the disk and macular region are not a part of this picture except in late stages in which the sclerosis has become far advanced.

The retinal signs of hypertension sclerosis in the order of their appearance may be divided into two stages: 1. Narrowing of the arterial reflex stripe and increased tortuosity of the arteries, loss of transparency of the artery walls, giving what has been described as a copper color, indentation of the veins which are crossed closely by arteries. 2. Noticeable contraction of the arteries both in diameter and length (straightening out of curves and bends), deep indentation of the veins where arteries cross closely over them, disappearance of small arterioles, due to their contraction, appearance

7. Moore, R. F.: The Retinal Circulation in Arteriosclerosis, Tr. Ophth. Soc. U. Kingdom **30**: 319-331, 1916.

8. Higgens, C.: The Scotoma of Migraine, Lancet **1**: 935-936, 1915. Hunt, J. R.: A Contribution to the Paralytic and Other Persistent Sequelae of Migraine, Am. J. M. Sc. **15**: 313-330, 1915. Moore, R. F. (Footnote 7). Rupert, M. P. S., & Wilson, E. E.: A Study of Migraine, Am. J. M. Sc. **157**: 361-366 (March) 1919.

9. Moore, R. F.: The Retinitis of Arteriosclerosis, and Its Relation to Renal Retinitis and to Cerebral Vascular Diseases, Quart. J. M. **10**: 29-75, 1916-1917.

of minute white spots in the fundus scattered around the macular region without any particular reference to artery endings, and veins two or three times the diameter of the corresponding artery, and showing ampulla-form dilatation distal to the arteriovenous crossing.

This constitutes the picture that is seen in persons who have progressive hypertension before any clinical or laboratory evidence of nephritis is found; these symptoms may continue for many years without any noticeable change in renal function, or, as has been stated by Gull and Sutton, with "kidneys healthy, whilst heart much hypertrophied and minute arteries and capillaries much thickened by 'hyalin-fibroid' substance."

To the picture of retinal vascular fibrosis may be added other changes that indicate the effect of renal disease; but the retinitis that occurs with insufficiency of renal activity gives no indication of the duration of disease of the kidneys before the onset of the retinitis. Insufficiency of renal action or retention of nitrogen products, although results of nephritis, probably do not in themselves produce the retinal changes. Just how much of the retinal picture is due to vascular changes and how much is due to nitrogen retention is not known. Indeed, in some cases it would seem that the vascular disorders alone produce the retinitis, while in others the retention products acting in the absence of vascular changes produce a retinitis characteristic of nephritis. Acute nephritis may occur in a person who has had essential hypertension for years and be independent of the course or effect of that hypertension and may produce a retinitis of acute nephritis, even as in a person whose retinas had previously been free from vascular change. The retinitis would be produced just as in a person whose blood pressure is not habitually elevated, though its course will be altered by chronic hypertension. More particularly is this true of persons whose arteries have become sclerosed through long continued hypertension. "To the arteriosclerosis of hyperpiesis, the kidneys, so far as yet known, stand in no correlation; except that generally speaking, the kidney is one of the organs whose arteries are affected early." [8]

It is a common clinical experience that persons who are subject to high blood pressure are prone to have attacks of nephritis and to stand them rather poorly. Because of the difficulty in making a satisfactory diagnosis of nephritis, it is often difficult to decide whether a given patient is suffering from essential hypertension or hypertension with nephritis. Curiously enough, the retinal arteries may show well advanced fibrosis, and chronic nephritis diagnosed from laboratory findings and clinical signs may be present, without changes in the retina, except those due to the hypertension, that is, retinitis of nephritis may be absent. It is well known, however, that a severe break in renal function in a person who has hypertension will produce marked changes in the fundus characteristic of acute nephritis in addition to the vascular fibrosis. The picture is a composite one. The earliest noticeable additional changes consist of edema and hyperemia of the disk and flame-shaped or lanceolate hemorrhages in the retina near the disk. Following this, edema of the retina and areas of soft "cotton wool" exudate appear. If the blood pressure suddenly becomes greatly elevated, as usually happens with a break in renal function, the hemorrhages, edema, and exudate will be correspondingly increased.

THE FUNDUS CHANGES IN NEPHRITIS*

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As supportive argument to the probability that, clinically, "cases of chronic nephritis begin as cases of 'essential hypertension.'" Moschcowitz [1] refers to the "complete identity even down to the minutest details between the lesion of chronic nephritis and those of albuminuric retinitis"; and, he says, "If arteriosclerosis, the albuminuric retinitis and nephritis are analyzed in their morphologic and genetic aspects, no one, I believe, can escape the conclusion that they are all manifestations of the one and same lesion, a primary productive inflammation affecting all the blood vessels from the capillaries to the aorta."

While we must admit the microscopic similarity in lesions of the kidney and eye, we must not forget that "regarding the anatomical changes affecting the eye in albuminuria, it is safe to say that there is but little inflammatory action involved; there is but little infiltration of leukocytes and increase of nuclei, and very little hyperplasia of connective tissue, such as we would expect to find in so chronic a condition if true inflammation were present." [2]

Parsons [3] states that the pathologic changes in the eye are essentially those of a passive edema. Cushing and Bordley [4] believe from their "clinical and experimental studies of choked disk, that the edema of the retina itself is due in large part, even in these cases of nephritis, to a backing of cerebrospinal fluid under increased tension into the investing meningeal sheath of the optic nerve," and that "the condition of so-called albuminuric neuroretinitis is, in large part at least, a local edema of mechanical origin."

It is generally accepted, I believe, that the chronic kidney shows considerable inflammatory pathology, even to the actual presence of the micro-organisms in the capillaries of the glomeruli.[5] So that, even in the similarity of the pathology, there is, nevertheless, a difference sufficient to preclude the acceptance of albuminuric neuroretinitis even as contributory proof that nephritis is of vascular origin, or that this vascular change is the result of a previous hypertension.

It cannot be substantiated that any of the changes are due to an "essential hypertension," or "that the most prominent factor in the production of retinitis of diseases of the vascular system and of nephritis is sclerosis of the retinal arteries." [6] The clinical facts which upset this theory are the infrequency with which the retinitis is found in these conditions, whether nephritis is present or not, and the fact that the various retinal changes do occur in the absence of retinal vascular sclerosis and hypertension.

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* From the Department of Ophthalmology, Long Island College Hospital.

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* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints. A copy of the latter will be sent by the author on request.

1. Moschcowitz, E.: Clinical and Anatomical Relations in Chronic Nephritis, Arch. Int. Med. **26**: 259 (Sept.) 1920.

2. Weeks, J. E.: A Clinical Contribution to the Pathology of Albuminuric Retinitis, Arch. Ophth. **17**: 276, 1888.

3. Parsons: Pathology, New York, 1908, **4**.

4. Cushing, H., and Bordley, J., Jr.: Subtemporal Decompression in a Case of Chronic Nephritis with Uremia; with Especial Consideration of the Neuroretinal Lesion, Am. J. M. Sc. **136**, No. 4, Oct., 1908.

5. MacCallum: Textbook of Pathology, 1917, p. 262.

6. Benedict, W. L.: Retinitis of Cardiovascular and of Renal Diseases, Am. J. Ophth. **4**: 495 (July) 1921.

A. E. Bulson, Jr.,[7] has said, "The fundus lesions that may accompany persistent high blood pressure and the various types of nephritis are due to the presence of toxic substances in the blood. The character and the extent of the retinal lesions depend on the virulence of the toxic substances, the stage of the angiopathic disease, and the resistance offered by the vascular structures of the eye." If to this is added the conclusions of Cushing and Bordley,[4] Bulson's admirable statement is completed. There can be no question of the fact that increased intracranial pressure is capable of producing and does produce the changes found in albuminuric neuroretinitis, in whole or in part. It is also a fact that, in the uremic state, the intracranial pressure is increased.

I have had occasion, several times, to observe an albuminuric neuroretinitis develop and pass through its several stages. Under observation at this time is a case, a toxemia of pregnancy,[8] in which, from a normal fundus, there developed in less than a week papilledema, exudative plaques, hemorrhage, and retinal edema. This retinal edema was marked in a zone immediately surrounding the disk, from there fading off until the retinal periphery was apparently normal. In two weeks' time, this edema had cleared up from the periphery, leaving at this writing only a slight degree immediately around the disk. The disks still retain their swelling of about 1 diopter, and the typical star-shaped figure has appeared in the macula. In this case, kidney function was normal, and the blood showed no retention. Therefore, we cannot refer to it as being due to the retained products of poor elimination; to the kidney as an intermediary;[9] or to vascular sclerosis; but must lay its cause either to the direct action of the blood toxin on the nerve and retinal tissue, or the increased intracranial pressure of cerebral edema, or both.

Another case, also a toxemia of pregnancy,[8] but with a preexisting nephritis, showing marked blood retention and low kidney function, presented the same fundus picture, but with the addition of retinal vascular sclerosis. Shall we say this fundus was due to a retinal vascular sclerosis?

The prognosis as to life or sight, in these cases, is not bad because the producer of the blood stream toxin is known, even though the toxin itself remains a matter of unknown character.

I do not exclude these pregnancy cases, as has been the custom, although no such case appears in the tables submitted. I believe that in the pregnancies the study of the eye changes, which are exactly similar to those of the nephritides, affords us the reason for the albuminuric neuroretinitis of nephritis.

A study of our cases, either ambulatory or in the hospital, will prohibit the acceptance of hypertension, vascular sclerosis, cerebral edema, diseased kidney with poor elimination or the constituents of blood retention as the sole cause of the retinal changes in nephritis.

We see continually in our private, dispensary and hospital work, all of the changes characteristic of albuminuric neuroretinitis, in varying combinations. In the absence of nephritis, we do not hesitate to ascribe as a cause for these changes the three "T's" of Bell, the anemias, infectious diseases, or the sensitizing proteins.

In the accompanying tables, all figures represent the averages taken from repeated examinations, with the exception of Cases 4, 12, 25, 32, 41, 45, 46, 49, 56, 58, 61, 67, 77, 78, 79, in each of which only the result of one examination is noted.

The albumin is noted in grams per liter; casts, as to presence or absence of any of the various types; urea nitrogen, uric acid, creatinin, and sugar, in milligrams per hundred cubic centimeters of blood.

The ocular changes are grouped under six headings, which represent all of the pathology shown in these cases. The cases are further grouped in series according to combination of changes peculiar to each. (Table 1.)

Under "vascular sclerosis," none of the presumptive signs of retinal vascular sclerosis appearing alone are noted. Only the accepted positive signs are here recorded, and their presence, in any case, of whatever degree, is simply reported as having sclerosis present. Retinal hemorrhages are charted regardless of character or number. "Papilledema" is used instead of "optic neuritis" or "neuropapillitis," because edema was the condition present in these cases, as against the inflammatory state presupposed by the term "neuritis."

Under "retinal degeneration" has been grouped the retinal changes exclusive of those already noted. In Series I, there is represented the small spots of retinal change so frequently seen at the site of an old retinal hemorrhage, and here assumed to be the remains of hemorrhages. In Series J, the foregoing is referred to, also the plaques of exudate, and other degeneration seen in albuminuric neuroretinitis.

Notation has been made of the deaths as they occurred under observation in the hospital. No attempt has been made to follow up the other cases.

"Hypertension," as referred to in this paper, means high blood pressure regardless of type or cause. The term "albuminuric neuroretinitis" is used advisedly. I realize that it is not so much nondescriptive as misused.

In the compiling of percentages, a white cell count of 10,000 or more is considered a leukocytosis; in the blood chemistry findings, anything over the following figures is considered retention: urea nitrogen 15, uric acid 3.5, creatinin 2.5, sugar 111.

It is of interest to note, in studying Table 1, that as the eye signs progress, in series, the hypertension, likewise, becomes more consistent. In other words, as the eye signs increase in chronicity, vascular sclerosis and retinal degeneration representing the chronic state, 87 per cent. of retinal vascular sclerosis, and 100 per cent. of retinal degeneration are accompanied by hypertension.

The albuminuria is heaviest in the eyes showing acute activity. In the ten cases showing retinal edema, there is an average of 7.7 gm. per case. The twelve cases showing papilledema average 3.3 gm. Six cases having both retinal and papilledema average 5.8 gm. The remaining forty-two cases average only 1.9 gm. per case. In Series D, acute fundi, there is shown an average of 8.3 gm., as against 6.5 gm. in Series E, in which the ocular changes designate an acute condition superimposed upon a chronic.

Albumin is proportional to the amount of tubular damage. Tubular damage is frequent in the infectious diseases and in the toxemias of pregnancy. The tubular cells are possessed of great regenerative power, since

7. Bulson, A. E., Jr.: Abstract of Discussion on Slocum, George: A Study of Ophthalmoscopic Changes in Nephritis, J. A. M. A. **67**: 5 (July 1) 1916.

8. Case reported in full before the Eye Section, N. Y. State Med. Soc., April, 1922.

9. Knapp, A.: Medical Ophthalmology, Philadelphia, 1918, p. 416.

these cells may undergo considerable damage without death of the cells, and further, that there may be complete relining of a damaged tube instead of the destruction which ultimately leads to obliteration of its glomerulus (MacCallum).

If the retinal edema or papilledema is due to the acute kidney condition, and the kidney recovers from its acute state, the eye recovers anatomically and functionally. But if, as is pretty well accepted, the acute kidney condition is due to a rather virulent blood stream toxin, infectious or not, it is evident that the kidney will not recover anatomically unless the offending agent in the blood is removed; so that the eye, also, will not recover anatomically, but will pass on into its chronic state, as does the kidney.

As a matter of fact, any blood toxin is capable of similarly injurying any human organ, and this separately or in combination of organs. If this toxin is not removed, nature sets up a defense in the form of reparatory processes which give to the particular organ accompanied principally by hypertension, low phenolsulphonephthalein output, and nitrogen retention.

Edema of the retina, in 20 per cent. of the cases, existed mainly in the acute kidney condition, the most marked retention being uric acid, and the condition made notable by the relatively low percentage of hypertension. Papilledema, in 35 per cent. of the cases, was most frequently present in the chronic kidney lesion, and the high proportion of low phenolsulphonephthalein output and hypertension is commensurate with the poor function of the chronic kidney and the hypertension of increased intracranial pressure. Retinal degeneration, in its various forms, found in 22 per cent. of the cases, was most often seen in the chronic kidney lesion, accompanied principally by hypertension, low kidney function, and fairly high blood retention.

It is evident, in studying these cases by groups, that as the eye signs increase in severity, as has already been stated, the hypertension shows a proportionate increase; at the same time the blood retention shows

TABLE 6.—FREQUENCY OF EYE SIGNS IN VARIOUS TYPES OF NEPHRITIS, AND OCCURRENCE OF SYMPTOMS IN VARIOUS EYE CHANGES*

	Frequency of Eye Signs in the Various Types of Nephritis					Occurrence of Symptoms in the Various Eye Changes									
	Chronic Glomerular	Acute Glomerular	Chronic Tubular	Arteriosclerotic	All Cases	Hypertension	High Pulse Pressure	Low Phenolsulphonephthalein Output	Albumin	Casts	Urea Nitrogen	Uric Acid	Creatinin	Sugar	Leukocytosis
Full veins	66	87	20	28	58	89	44	91	87	68	76	76	53	75	54
Vascular sclerosis	77	25	40	85	71	87	54	92	77	63	71	66	36	64	55
Retinal hemorrhage	41	25	0	14	32	92	50	94	84	80	84	77	50	68	69
Retinal edema	20	50	20	0	20	67	31	100	93	62	62	86	56	56	43
Papilledema	43	25	20	14	35	96	42	100	89	78	85	78	56	76	59
Retinal degeneration	32	0	0	14	22	100	50	100	88	77	88	60	66	64	61
Series A	33	16	33	16	7	50	66	40	66	66	33	25	0	16	66
Series B	60	20	0	20	6	100	60	60	80	60	60	60	20	80	60
Series C	44	0	11	44	22	80	50	84	66	50	55	46	11	47	55
Series D	60	40	0	0	6	60	20	66	100	60	60	100	60	80	60
Series E	60	40	0	0	6	60	40	100	89	40	60	100	60	80	20
Series F	75	0	0	25	5	100	75	100	75	50	75	75	50	50	50
Series G	80	0	0	16	7	100	64	100	64	64	64	75	32	100	40
Series H	40	40	20	0	6	100	20	100	100	80	100	80	60	80	60
Series I	88	0	0	11	11	88	66	80	77	77	88	80	33	66	66
Series J	96	0	0	6	21	96	42	100	96	84	90	78	66	66	66

* Figures represent percentages.

its chronic pathology. Then a repetition of injury further damages the organ, usually by an acute exacerbation of the chronic condition, and this may go on until there is total anatomic and functional destruction of the organ. It is, at least, a more logical belief that vascular sclerosis is so produced, and not by persistent hypertension.[1] The probability of such a course of events has already been stated by MacCallum.[10]

We know that retinal vascular sclerosis exists without hypertension. Twenty per cent. of the cases in Series C had no hypertension; possibly a greater percentage were we to have seen these cases earlier. Retinal hemorrhages exist without visible change in the vessel wall, as also do edema and exudate. Then why say that the retinal change is due to sclerosis of the retinal vessels? Change in the vessel wall may render the wall more permeable, but this does not make the wall the causative factor.

Retinal vascular sclerosis was present in 71 per cent. of all cases. Occurring alone, it was present in 22 per cent. Retinal hemorrhage, in this series, was always attended by other fundus change, and occurred in 32 per cent. of all cases, mainly attended by retinal vascular sclerosis, and, as in these cases of sclerosis, an increase, and the kidney function, as indicated by the phenolsulphonephthalein output, a decrease.

In Series C, vascular sclerosis alone, indicating chronicity, while the larger number shows hypertension and low phenolsulphonephthalein output, there is relatively a low degree of blood retention. This may be taken to mean that in these cases nature has set up a very effectual defense. But when, as in Series E, an acute attack is superimposed on this chronic condition, while hypertension is lower, the kidney function is less; but the blood retention is increased. In the same fundus, less sclerosis, Series D, much the same picture is presented as in Series E, with the exception of better kidney function when there is less sclerosis.

Comparing Series G and H, we find that, in the papilledemas, there is considerably more retention when sclerosis is absent.

All cases in Series J are of the type commonly referred to as albuminuric retinitis, either in its exudative or degenerative form. This Series represents 21 per cent. of all cases. The star-shaped figure in the macula was present in Cases 65, 68, 70, 71, 72, 73, 74, 78.

The analysis of these cases compares favorably with similar studies already reported by other observers.

10. MacCallum: Textbook of Pathology, 1917, p. 336.

However, it will be of interest to compare two cases in this report. Case 19 (Tables 1 and 3), a man of 58 years, under observation for one month for a chronic tubular nephritis, became uremic and died. His phenolsulphonephthalein output never went above 22 per cent.; the highest blood retention was: urea nitrogen, 115.3; uric acid, 5.5; creatinin, 3.6; and sugar 100; the highest blood pressure was: systolic, 150; diastolic 90, yet the only ocular change was a mild retinal vascular sclerosis. Case 64 (Tables 1 and 5), on the other hand, showed an albuminuric neuroretinitis in the exudative stage, yet had absolutely no blood retention, and a phenolsulphonephthalein output of 39 per cent.

CONCLUSIONS

The eye is no index to kidney damage in the sense used by Moschcowitz.

Sclerosis of the retinal vessels represents the evidence of nature's defense, rather than a causative factor in the production of retinitis.

In the light of the words of Cushing and Bordley,[4] "It is a quibble to refer the edema back to some toxic agency," it is still my belief that some injurious substance in the blood stream, call it toxic or not, is the basic cause of any or all of the signs noted in the retinitis of nephritis.

In the cause of the kidney pathology, we have the cause of the eye change. The ocular pathology does not exist because of the kidney change any more than the nephritis is the result of the eye change.

184 Joralemon Street.

Health Conditions in Eastern Europe.—The first bulletin to be issued by the League of Nations Health Section, just received, gives authoritative information regarding the prevalence of epidemic disease in eastern Europe. In Constantinople, during November and December, there were thirty-seven cases of typhus, 168 cases of typhoid fever and thirty-one cases of smallpox. Data received from Russia indicate an increase of typhus, particularly marked in the northwestern and northern parts of the country. Similar important increases are noted in all governments in the Ural region and in Petrograd and Moscow relapsing fever is increasing markedly, particularly in the Ural region, where 3,493 cases were reported during the first two weeks of November. In the same region 2,200 cases of typhoid fever were reported in November, although some of these may be due to confusion with typhus. For the week ending December 3, 195 cases of typhus were reported in Moscow, seventy three in Petrograd and 590 cases in Perm. For the five weeks ending December 3 there were notified in Poland 1,441 cases of typhus, 1,172 cases of relapsing fever, 3,748 cases of typhoid fever, 1,997 cases of dysentery, 219 cases of smallpox and 4,342 cases of scarlet fever. In Czechoslovakia, typhus seems to be fairly well under control but influenza is reported to be spreading southeastward. The bulletin indicates by tables and maps the occurrence of scurvy, typhus, dysentery and relapsing fever and supplies such statistics as are available concerning the incidence of disease in the Red Army. The report also contains a census of the Russian population, which indicates a great decrease in various centers. Thus Petrograd is reported to have decreased from 2,319,000 in 1913 to 706,000 in 1920 and Moscow from 1,817,000 in 1913 to 1,028,000 in 1920.

SIGNIFICANCE OF PATHOLOGIC CHANGES IN FUNDUS

IN GENERAL ARTERIAL AND KIDNEY DISEASES *

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With the advent of the newer methods in the study of kidney and arterial diseases, it is of prime importance to be familiar with the pathologic changes in the fundus, and their microscopic appearances. The pathologic reports and studies on albuminuric neuroretinitis are numerous and very thorough, and leave little to be added from the purely pathologic standpoint.

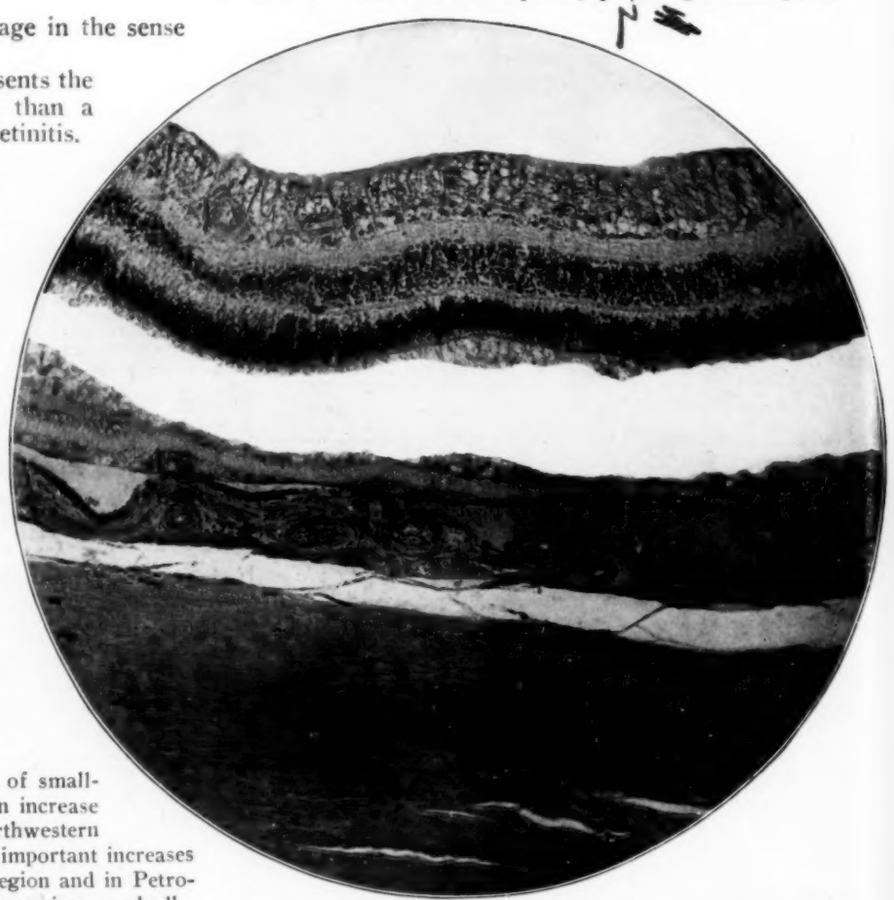

Fig. 1 (Case 1).—General capillary sclerosis, with contracted and practically structureless kidney. Retina: nerve fiber layer edematous; Müller's supporting fibers thickened; degeneration of ganglion cell layer; internuclear layer, commencing degeneration; albuminous exudate in internuclear layer; external limiting membrane broken and covered with exudate; pigment layer broken. Choroid: marked arteriosclerosis.

It is mainly their significance and their special relationship to pathologic conditions of the kidney that has prompted me to present this subject.

In my clinical experience I have found that the various classifications of kidney and arterial diseases have led to confusing diagnoses. Six years ago, while engaged in a study of the correlation of kidney to retinal diseases, I considered it of the utmost importance to have as a working basis a clinicopathologic classification which would be accepted by clinicians and

* Read before the Section on Ophthalmology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

* Because of lack of space, this article is abbreviated in THE JOURNAL. The complete article appears in the Transactions of the Section and in the author's reprints.

pathologists generally. At about the same time, Drs. Levy and Larkin of the City Hospital, New York, were engaged in the study of nephritis based on the classification of the terms used by Volhard, Fahr and other Europeans. I was fortunately able to secure from them most of my eye material, with all the pathologic reports relating to the kidneys in the same cases. During this period we mutually, though intermittently, studied this subject with the hope that it might be productive of a nucleus for future studies. Drs. Levy and Larkin have shown in previous short reports, and in a more comprehensive report to be published shortly, that the various complexities in pathologic conditions of the kidney have their origin in one of the three structures of the kidney, namely, the glomerulus, the tubules or the vessels. They insist that the term interstitial nephritis is an untenable one, as connective tissue is the result of any pathologic change in the kidney, irrespective of its origin. They emphasize the fact that vascular changes in the kidney are either a primary or a secondary factor in the progress of its pathology. For example, the changes in the kidney may start in the glomeruli, the vessels and tubules being secondarily involved, and end as a structureless kidney; or the changes may start in the vessels and also end in a structureless kidney. Although the terminal pathologic condition is similar, the clinical symptoms and progress of the disease are entirely different.

Since it is well recognized that there are no pathologic changes in the fundus in certain types of kidney disease—as in tubular nephritis, so-called nephrosis—the ophthalmologist is mainly interested in such phases of kidney disease as have their origin in the glomerulus or vessels of the kidney.

In tubular nephritis, which is due to degeneration of the epithelium of the convoluted tubules, as in acute infectious diseases—scarlet fever, etc.—the fundus is normal, although in many instances the general symptomatology is characterized by massive edema.

The changes in the fundus described as albuminuric retinitis are confined to general vascular and arterial disease of the kidney. This is true whether the disease begins as a primary or as a secondary process following a glomerular nephritis. Capillary sclerosis (a primary arterial disease) is a general disease, the kidney and retina being involved as in any other organ of the body; in a certain number of these cases the kidney takes on true structural changes, designated by them as complex kidney. From a study of the material at hand, it is demonstrated that in the types of cases designated as capillary sclerosis, on the one hand, and, on the other hand, as capillary sclerosis with structural changes in the kidney, the retinal and choroidal arteries showed uniformly varying degrees of arteriosclerosis. They were under the impression that the cases designated as pure capillary sclerosis with no structural changes in the kidney would show only vascular changes in the retina and choroid and no concomitant ophthalmoscopic pathologic condition, as might be expected, such as whitish spots, retinal hemorrhages and papillitis. On the other hand, the cases designated by them as complex kidney would show structural changes in the retina and choroid, in addition to the vascular changes.

It was their impression that the hemorrhages, whitish spots and papillitis were the results of some toxic element produced by the structural changes in the kidney; but from a study of this material it has been demonstrated that the vascular changes were present in both types, and that clinically the retinal changes, whitish spots and papillitis were present irrespective of whether or not the kidney had taken on marked structural changes.

We believed that in certain types of cases of glomerular nephritis in which patients were suffering

Fig. 4 (Case 3).—General capillary sclerosis with contracted and structureless kidney. Retina: all layers edematous; vacuoles in internuclear layer; subretinal exudate of cellular detritus and pigment. Choroid: vessels show varying degrees of stenosis of lumen due to thickening of walls of vessels. One vessel completely stenosed, owing to obliterating endarteritis; polymorphonuclears and round cells in stroma.

from uremia, the hemorrhages, whitish spots and papillitis were of toxic origin; still, after my examination of the material, I was surprised to find that nothing definitely pathologic could be found except the arterial changes, similar to the pure arteriosclerotic cases described above, and causing as a result whitish spots, hemorrhages and papillitis. It is possible that, in the course of glomerular nephritis, certain unknown factors produce arterial changes in the fundus. This seems plausible because I have observed clinically patients suffering with kidney disease in whom the changes in the fundus were those generally described as albuminuric neuroretinitis, and in whom there was

no disturbance of apparent toxic origin from the kidneys, such as increase of urea nitrogen in the blood.

The various theories found in the literature suggesting that hypertension, cardiac hypertrophy and excess of urea nitrogen in the blood are factors in producing the pathologic changes in the fundus are still open to question. Levy and Larkin suppose that the hypertis has been mentioned by such writers as Gull and Sutton, Carl Theodore, Michel, Hoffman and Weeks. Similarly, the same question applies to cardiac hypertrophy and to hypertension, whether of primary or of secondary origin.

From clinical data, the urea nitrogen is not the cause of the edema of the papilla, whitish spots or

SUMMARY OF FINDINGS

Case No.	Age	Urea Nitrogen	Blood Pressure	Cardiac Hypertrophy	Kidney Diagnosis	Ophthalmoscopic Findings	Microscopic Eye Findings	Pathologic Cause of Death
1	52	133	240	Marked	Capillary sclerosis; structureless; contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema; retina, arteriosclerosis, oblit. endarteritis, hemorr., albuminous exudates, vacuoles; choroid, arteriosclerosis, oblit. endarteritis, polys., round cells	Cardiac and renal
2	50	65	260	Marked	Capillary sclerosis; structureless; contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, vacuoles, hemorrhages; choroid, round cells and polys., colloid excrescences, arteriosclerosis	Cardiac and renal
3	50	48	200	Marked	Capillary sclerosis; structureless; contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, oblit. endarteritis, vacuoles; choroid, arteriosclerosis, oblit. endarteritis, round cells and polys.	Cardiac and renal
4	58	28	205	Marked	Capillary sclerosis; structureless; contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, hemorrhages, serofibrinous exudates, vacuoles; choroid, arteriosclerosis, oblit. endarteritis, hemorrhages	Cardiac and renal
5	52	73	230	Marked	Capillary sclerosis; structureless; contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, hemorrhages, vacuoles, cytoid bodies; choroid, arteriosclerosis, oblit. endarteritis, polys., round cells, perivascular	Cardiac and renal
6	32	105	190	Moderate	End stage; glomerular nephritis; structureless	Moderate chorioretinal arteriosclerosis with few hemorrhages, whitish foci, no papilledema	No papilledema; retina, moderate arteriosclerosis, hemorrhages, serofibrinous exudates, vacuoles, cytoid bodies; choroid, moderate arteriosclerosis, round cells, polys.	Renal
7	32	158	220	Moderate	Capillary sclerosis; practically structureless; contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, vacuoles, cytoid bodies, subretinal exudate; choroid, arteriosclerosis, oblit. endarteritis, polys., round cells	Cardiac and renal
8	36	240	210	Moderate	Capillary sclerosis; practically structureless; contracted	Not noted	Papilledema, retina, arteriosclerosis, vacuoles, perivascular round cell infiltration; choroid, arteriosclerosis, oblit. endarteritis	Cardiac and renal
9	44	45	220	Mild but concentric enlargement	Capillary sclerosis; structure fairly well preserved, not contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, vacuoles; choroid, arteriosclerosis, oblit. endarteritis, polys., perivascular round cell infiltration	Cardiac
10	40	17	190	Marked	Capillary sclerosis; structure fairly well preserved; not contracted	Moderate chorioretinal arteriosclerosis	No papilledema; retina, arteriosclerosis, vacuoles; choroid, arteriosclerosis, oblit. endarteritis, round cells, polys.	Cardiac
11	56	Not noted	Not noted	Marked	Capillary sclerosis; structure fairly well preserved; not contracted (hypophysial tumor)	Moderate chorioretinal arteriosclerosis with bilateral secondary optic nerve atrophy	No papilledema; retina, arteriosclerosis, vacuoles; choroid, arteriosclerosis, oblit. endarteritis, polys., round cells	Pituitary tumor
12	35	54	250	Marked	Capillary sclerosis; structure fairly well preserved; not contracted	Marked chorioretinal arteriosclerosis with numerous hemorrhages, whitish foci and papilledema	Papilledema, retina, arteriosclerosis, vacuoles, albuminous exudates; choroid, arteriosclerosis, oblit. endarteritis	Cardiac
13	50	50	Not noted	Marked	Capillary sclerosis; structure well preserved; not contracted	Not noted	No papilledema; retina, arteriosclerosis; choroid, arteriosclerosis	Cardiac
14	48	37	Not noted	Not noted	Capillary sclerosis; structure well preserved; not contracted	Not noted	Papilledema, retina, arteriosclerosis, vacuoles; choroid, arteriosclerosis, polys., round cells	Cardiac
15	62	138	150	Moderate	Decrescent arteriosclerosis upon which is superimposed a glomular nephritis	Moderate chorioretinal arteriosclerosis	Papilledema; retina, arteriosclerosis, vacuoles; choroid, arteriosclerosis, polys., round cells	Cardiac
16	47	27	110	Marked due to aortic insufficiency	Decrescent arteriosclerosis; structure well preserved; not contracted	Moderate chorioretinal arteriosclerosis	Papilledema; retina, arteriosclerosis, vacuoles; choroid, arteriosclerosis increase in connective tissue	Encephalitis
17	48	Not noted	Not noted	Normal	Decrescent arteriosclerosis (hypernephroma)	Moderate chorioretinal arteriosclerosis	Papilledema; retina, no arteriosclerosis, vacuoles; choroid, arteriosclerosis	Hypernephroma
18	58	13	230	Moderate	Decrescent arteriosclerosis; structure preserved; moderate contraction	Moderate chorioretinal arteriosclerosis with few hemorrhages and whitish foci	No papilledema; retina, arteriosclerosis; choroid, arteriosclerosis	Cardiac

tension in the glomerular cases undoubtedly follows the lesion in the kidney, and that it is questionable in capillary sclerosis whether the hypertension is primary or secondary. Nevertheless, from my microscopic eye examinations, the common factor noted in all these cases was the arterial change in the retina and choroid, and I am led to believe that a vascular wall disease is the basic factor in producing the various clinical fundus changes. The possibility of arteriosclerosis being the basic pathologic factor of albuminuric retinihemorrhages. On several occasions I have had laboratory reports showing a marked albuminuric neuroretinitis in patients with normal blood figures and proved kidney diseases.

This report embraces the study of eighteen cases, including mainly diseases of the kidney. Although this series of cases is too small for the establishment of any definite conclusions, still they may be of value to those who are interested in studying this very intricate problem. In each case one eye was removed from two

to seven hours after death. The eyes were hardened in formaldehyd or Müller's fluid, embedded in celloidin, and then studied in serial sections, being stained with van Giesen's or Larkin's modification. Photomicrographs of each case are reproduced. Complete histories, including metabolic and laboratory reports, were studied in all the cases. I shall briefly mention only the salient factors in each case, which have an important bearing on the subject matter of this report.

REPORT OF CASES

CASE 1 (Figs. 1 and 2).—B. S. (Prot. No. 3750), man, aged 52.

Microscopic Kidney Diagnosis.—Capillary sclerosis, contracted and practically structureless. Urea nitrogen, 133 mg. per hundred cubic centimers; blood pressure, 240; marked cardiac hypertrophy.

Ophthalmoscopic Findings.—Disk margin completely obliterated, covered with two fresh hemorrhages. Peripapillary edema, grayish whitish spots around papilla, several flamelike hemorrhages surround the papilla; a few glistening whitish spots encircling the macular, simulating the characteristic star figure. The veins are engorged and tortuous, and indicate venous compression at several points. Some arterial branches contracted, showing prominence of central light reflex.

Microscopic Eye Findings.—Optic nerve edematous; moderate arteriosclerosis of posterior ciliary and anterior ciliary arteries; papilla and surrounding area edematous. Retina: Nerve fiber layer and internuclear layers edematous, latter showing numerous vacuoles, mainly on temporal side of disk. Hemorrhages in all of its layers. Albuminous and serofibrinous exudates are seen in the nerve fiber layer, mainly in the macular area, producing a flat retinal detachment. Marked arteriosclerosis. Choroid: Moderate arteriosclerosis; a few capillaries are stenosed, indicating obliterating endarteritis; a few leukocytes and polymorphonuclears in veins, and a single area of perivascular round cell infiltration.

CASE 3 (Fig. 4).—R. (Prot. No. 1259), Aged 50.

Microscopic Kidney Diagnosis.—Capillary sclerosis, contracted and structureless. Urea nitrogen, 48 mg. Blood pressure, 200; marked cardiac hypertrophy.

Ophthalmoscopic Findings.—Disk margin practically obliterated. Whitish circular, ill-defined foci around papilla; few circular and stellate hemorrhages in this area. Whitish foci; some glistening around the macula, simulating a stellate figure. Veins engorged and tortuous, and indented at places. Arteries apparently normal; a few secondary branches show prominence of the central light reflex.

Microscopic Eye Findings.—Septal tissue of the optic nerve hypertrophied. The central and posterior ciliary vessels are sclerosed. Papilla and surrounding retina moderately edematous. Retina: Cytoid bodies are present in the nerve fiber layer. The nerve fibers and supporting fibers show localized thickening and a cellular structure on surface. Subretinal exudate of cells and pigment, producing localized detachment of retina. Large vacuoles are present in the nuclear and internuclear layers near the papilla. Choroid: Veins dilated; moderate sclerosis and endarteritis of capillaries. A few foci of round cell infiltration are seen in the stroma.

CASE 4 (Fig. 5).—S. W. (Prot. No. 4901), woman, aged 58.

Microscopic Kidney Diagnosis.—Capillary sclerosis, contracted and structureless. Urea nitrogen, 28 mg.; blood pressure 205; marked cardiac hypertrophy.

Ophthalmoscopic Findings.—Disk margin completely blurred; whitish foci and hemorrhages on disk and surrounding area. Macular area surrounded by whitish patches, pigment and a few circular hemorrhages. Veins engorged and tortuous and indented by arteries. Some of the secondary arterial branches contracted.

Microscopic Eye Findings.—Central arteries hypertrophied; papilla edematous and covered by several hemorrhages. Retina: Hemorrhages in all layers; serofibrinous exudate and vacuoles in the internuclear layer, near macula. Pigment layer broken in spots. The subretinal exudate contains cellular detritus, pigment and hemorrhages. Choroid: Slight increase in fibrous tissue; moderate arteriosclerosis of the larger vessels, and marked sclerosis of the capillaries, and obliterating endarteritis.

CASE 6 (Fig. 7).—S. (Prot. No. 125), aged 32.

Microscopic Kidney Diagnosis.—End stage of glomerular nephritis; kidney structureless. Urea nitrogen, 105; blood pressure, 190; marked cardiac hypertrophy.

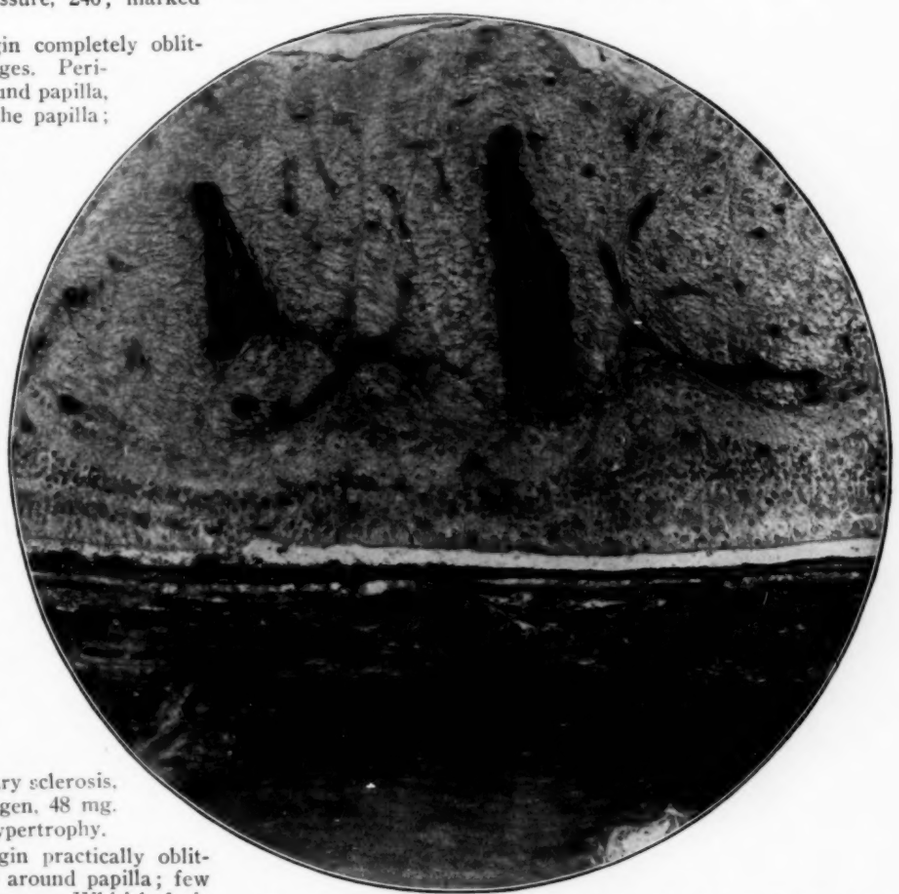

Fig. 5 (Case 4).—General capillary sclerosis with contracted and structureless kidney. Retina: edema and degeneration of all layers; supporting fibers thickened; sclerosis of vessels; pigment layer broken in places and heaping up of pigment. Choroid: one vessel shows practically complete stenosis of lumen, also increase of connective tissue.

Ophthalmoscopic Findings.—Disk margin normal; veins normal; smaller arterial branches contracted; a few whitish small dots with ill defined border around papilla; larger ones around the macula; two small hemorrhages above and near the disk. Later in the disease, glistening white dots appeared around the macula and the hemorrhages became absorbed.

Microscopic Eye Findings.—Central vessels normal; round cell infiltration on dural sheath; papilla normal. Retina: Few hemorrhages in all of its layers; cytoid bodies present; vacuoles and hemorrhages in the internuclear layer; pigment layer intact; moderate arteriosclerosis. Choroid: Veins contain polymorphonuclears and round cells; also few in stroma; capillaries show moderate arteriosclerosis.

CASE 8 (Figs. 10 and 11).—F. S. (Prot. No. 3094), man, aged 36. Urea nitrogen, 240; blood pressure, 210; moderate cardiac hypertrophy.

Microscopic Kidney Diagnosis.—Capillary sclerosis; contracted, practically structureless.

Ophthalmoscopic Findings.—Disk normal; marked retinal arteriosclerosis of the smaller vessels.

Microscopic Eye Findings.—Central artery hypertrophied; papilla normal. Retina: Nerve fibers thickened; perivascular round cell infiltration around branch of central artery; slight edema of all its layers; hypertrophy of capillaries. Polymorphonuclears and round cells in the vessels. Choroid: Marked sclerosis of numerous capillaries and obliterating endarteritis; veins normal.

CASE 18 (Fig. 23).—T. (Prot. No. 140), aged 58.

Microscopic Kidney Diagnosis.—Decrescent arteriosclerosis, going on to contraction. Structure preserved. Urea nitrogen, 13; blood pressure, 230; moderate cardiac hypertrophy.

Ophthalmoscopic Eye Findings.—Disk normal; few whitish spots around disk; two small hemorrhagic areas above disk; veins moderately engorged and tortuous, and show definite indentations at places where crossed by sclerosed arteries.

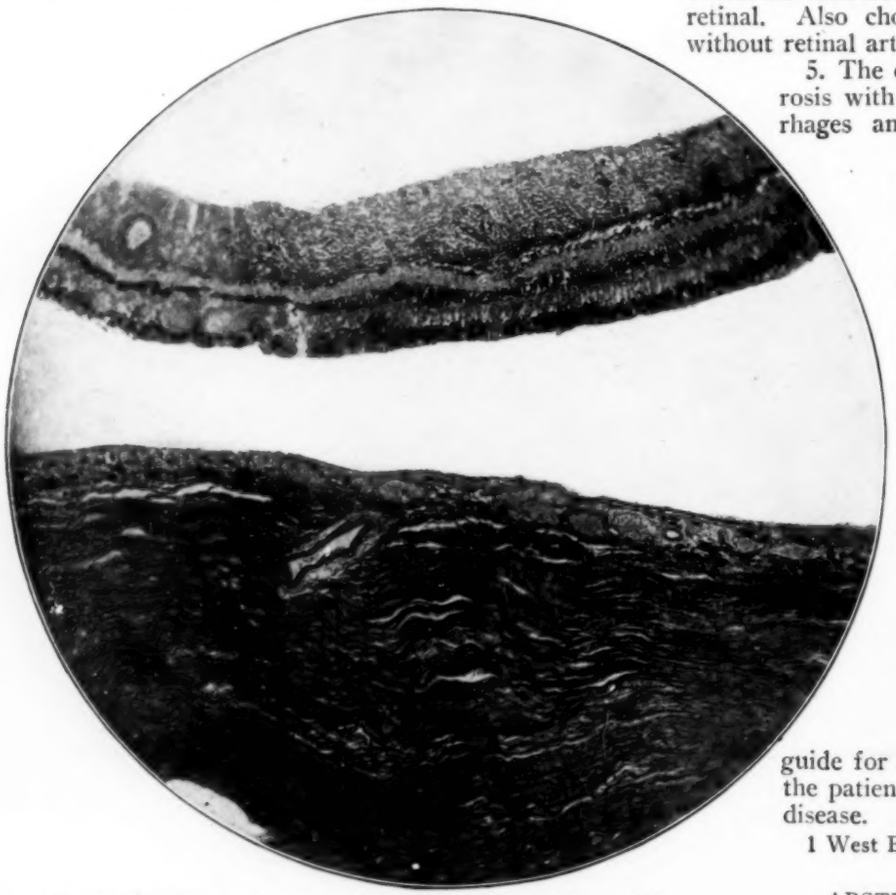

Fig. 7 (Case 6).—End stage of glomular nephritis. Retina: cytoid bodies; edema of nerve fiber and internuclear layers; thickening of nerve fibers; moderate arteriosclerosis. Choroid: moderate arteriosclerosis; few polymorphonuclears and round cells in vessels and stroma.

Microscopic Eye Findings.—The central artery shows arteriosclerosis; papilla normal; retinal arteries sclerosed. Choroid shows also marked sclerosis of capillaries, and obliterating endarteritis.

Varying degrees of arteriosclerosis were found in all of our microscopic eye and kidney material. There was no evidence of true inflammation in any of the microscopic eye material. The presence of the perivascular round cell infiltration, which occurred almost solely in the choroid, is, in my opinion, an evidence of replacement fibrosis.

CONCLUSIONS

1. A fundus diagnosis of chorioretinal arteriosclerosis, with or without edema of disk, hemorrhages, whitish foci, etc., is a more tenable term than albuminuric neuroretinitis, for the reason that a number of authorities concur in not finding any evidence of inflammation in microscopic studies of the fundus, in this type of cases. Also, albumin is not considered an etiologic factor, for obvious reasons.

2. The *basic* pathology for the fundus changes in this study is a primary chorioretinal arteriosclerosis. The edema of disk, hemorrhages, whitish foci, etc., result either solely from this pathology or in association with some unknown factor.

3. The degree of arteriosclerotic changes found in the microscopic eye material is not in direct proportion to the amount of pathologic change noted clinically in the fundus.

4. Ophthalmoscopically, no signs of retinal arteriosclerosis were apparent in some cases, though microscopically evidence of arteriosclerosis was found. The choroidal arteriosclerosis was more marked than the retinal. Also choroidal arteriosclerosis was present without retinal arteriosclerosis.

5. The evidence of chorioretinal arteriosclerosis with definite edema of the disk, hemorrhages and whitish foci in the conditions designated by us as capillary sclerosis suggests that the kidney had already suffered marked contraction; on the other hand, the absence of the marked edema of the disk in these conditions is usually associated with a kidney which is the site of vascular changes alone.

6. In the decrescent type of arteriosclerosis, the fundus frequently shows simply varying degrees of arteriosclerosis for a long period; in a small percentage of these cases, hemorrhages and glistening white spots appeared, rarely, edema of the disk.

7. At times it is difficult or impossible for the ophthalmologist to diagnose a kidney or arterial disease from the fundus changes without the cooperation of an internist.

8. An accurate knowledge of the fundus lesions provides a valuable guide for the diagnosis, prognosis and care of the patients suffering with kidney and arterial disease.

1 West Eighty-Fifth Street.

ABSTRACT OF DISCUSSION

ON PAPERS OF DRS. BENEDICT, BEHAN AND COHEN

DR. GEORGE SLOCUM, Ann Arbor, Mich.: Dr. Behan's conclusion that hypertension is not the cause of either nephritis or the retinitis typically associated with nephritis is well supported by his careful analysis of his cases. The disturbances of the functional activities of the kidney are usually significant of the damage the kidney itself has suffered, but the associated retinal changes are not always an index of the extent of the injury to the kidney structures, nor do they indicate that the kidney lesions are the direct cause of the retinal lesions. That the etiology of the kidney disease is mainly the cause of the associated retinitis seems to be more than probable; nevertheless, a possible etiologic relation between the associated characteristic retinitis and the nitrogen retention and toxemia of advanced nephritis cannot be denied absolutely. The belief that the optic neuritis or neuroretinitis seen in nephritis is due to interference with the outflow of lymph or blood and generally dependent on increased intracranial pressure is a negation of the idea that the retinal changes of nephritis are due to the cause of the kidney disease. That papilledema is a result of increased

intracranial pressure has been proved by Parker; but, recalling the many types and varieties of edema and swelling seen in other portions of the body, one may hesitate to accept the theory that all cases of swelling of the optic disk in nephritis are due to increased intracranial tension. I am, therefore, fully in accord with Dr. Behan's third conclusion, that the basic cause of the changes in the retina seen in nephritis are due to some injurious substance in the blood stream. My study of this problem showed that the changes in the fundus vary not only with the type of the disease, but in different stages of the same type. The early changes are not typical, although they may be suggestive. Cases presenting in both eyes edema, distinct vascular involvement, inflammatory appearance of the disks, recent hemorrhages and yellowish white spots, the remains of old hemorrhages, are very likely cases of nephritis. When advanced vascular changes, more marked inflammatory symptoms, hemorrhages and macular exudates are found in both eyes, a diagnosis of parenchymatous or mixed nephritis with a grave prognosis may be expected. When vascular changes of a sclerotic type predominate, the edema and inflammatory symptoms are less marked, hemorrhages are smaller and linear or lanceolate in form, often whitish dots are present in the macula, and there is a peculiar loss of macular detail. General examination frequently reveals high blood pressure, little or no albumin in the urine, fairly good elimination—chronic interstitial or vascular nephritis. Macular exudates having a radiating arrangement indicate a relatively late stage of parenchymatous nephritis. When the two types are present in the same eye, the cases are difficult to tabulate and classify. The kidney lesions are often of so mixed a variety that the pathologist cannot easily say to which class they belong. Nephritis and albuminuria are general terms; "albuminuric retinitis" emphasizes a variable and inconstant symptom of nephritis; the expression "the fundus changes seen in nephritis" is preferable. All cases of nephritis are believed to be directly or indirectly toxic or infectious in origin. If the toxic agent first causes vascular disease, interstitial nephritis is liable to develop, and the appearance of the fundus is more like that of hypertension. If, later, toxic agents attack the parenchyma, the fundus may present retinal changes of parenchymatous nephritis. If the toxic agent first attacks the parenchyma, the fundus changes are more likely to be of the type so often found associated with chronic parenchymatous nephritis. If the toxic agent attacks the retina alone, monocular lesions, closely simulating the retinitis of nephritis, may be found. It is only when the cases are studied in relation to their etiology, the type of the pathologic changes present, and the stage of the disease, that a definite relation appears between the fundus changes seen in the different stages and types of nephritis and the pathologic changes taking place in the kidneys.

DR. ALBERT E. BULSON, JR., Fort Wayne, Ind.: Dr. Cohen's findings bear out the generally accepted theory that so-called albuminuric retinitis is a local manifestation of a general arteriosclerosis. Late investigation of Bright's disease does not show anything contrary to the theory that chronic nephritis should be considered a disease of the cardiovascular system. There is no clearly defined demarcation of the so-called types of chronic nephritis for all forms are a diffuse process involving epithelial, interstitial and glomerular tissue. Although there may be a variation in the ophthalmoscopic picture presented in any of the so-called types of chronic nephritis, every case is the effect of toxic substances in the blood which are brought into intimate contact with the vascular system of the fundus of the eye and induce endovascular and parenchymatous changes in the choroid and retina. The destructive effect of circulating poisons that act on the vessels of the kidneys and retina need not be ascribed to "selective action," but to the anatomic fact that both structures are supplied by terminal vessels, and the evils of obstructed circulation cannot be averted by collaterals. The fundus alterations are very largely a question of degree or stage of progress rather than a question of destructive type of retinal alteration to conform to a standard form of kidney pathology. While fundus lesions may occur in any form of nephritis, they are more frequent in chronic nephritis. The lesions generally are confined to the retina, although there may be involvement of the choroid—a diffuse chorioretinitis. The fact that no pathologic change may be noted in the fundus, whereas the microscopic material shows arteriosclerosis change, merely indicates a difference in the degree of resistance in the vascular walls. The exudation and hemorrhage

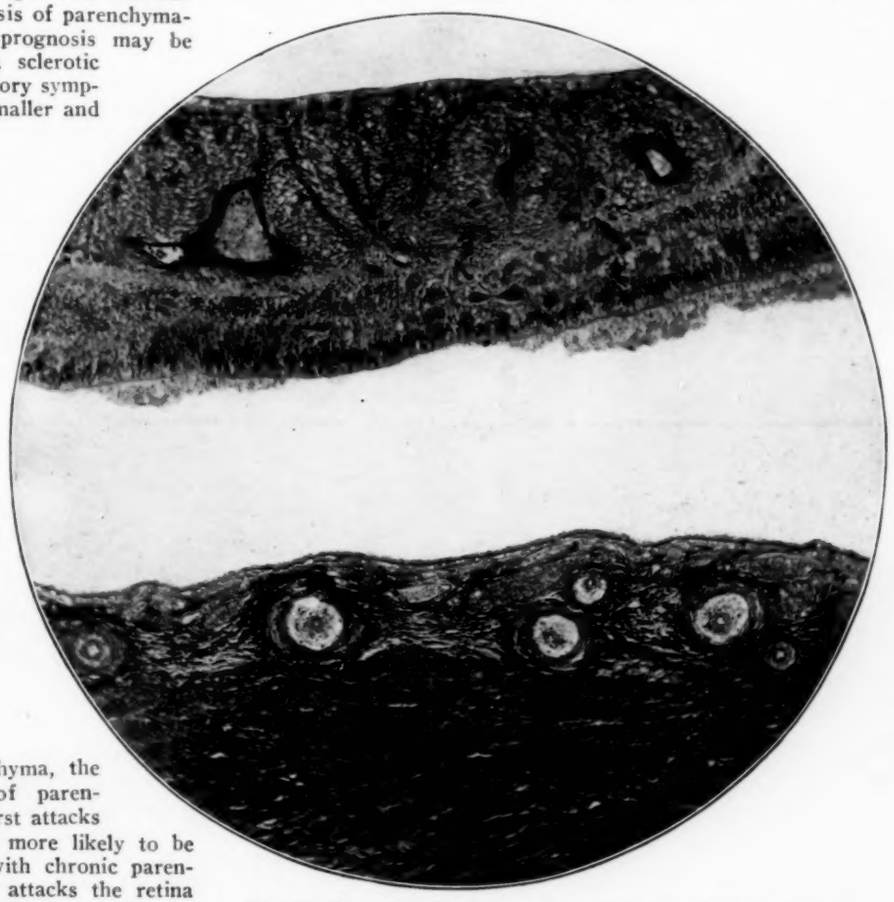

Fig. 10 (Case 8).—General capillary sclerosis with contracted and practically structureless kidney. Retina: all layers edematous; supporting fibers thickened; sclerosis of vessels, and perivascular round cell infiltration. Choroid: vascular walls thickened; one vessel shows complete obliteration of lumen.

that occur are not the result of obstruction in the vessels, but of a weakening of the walls by the presence of poisonous substances in the blood. Dr. Cohen's conclusions that edema of the disk, hemorrhage and whitish foci in the retina suggest that the kidney already has suffered marked contraction would seem to be conclusive, and yet similar fundus lesions occur in acute nephritis accompanied by vascular degeneration from some toxic substance in the blood stream and not accompanied by marked contraction of kidney structure. On the contrary, edema, hemorrhage and exudates need not necessarily indicate that there is no contraction of kidney structure. We are dealing with disease of the cardiovascular system, and the fundus alterations are merely an evidence of a toxin in the blood stream, the degree depending on the character and virulence of the toxin and the resisting power of the tissues. The chorioretinitis of pregnancy often shows

proportionately more disturbances in the eyes than in the kidneys; and even though permanent damage to vision may result, the mortality from this type of vasculorenal disturbance is less than in any other form of nephritis. Similarly, a comparatively insignificant ophthalmoscopic picture may accompany extensive kidney involvement associated with marked myocardial disease. The term albuminuric retinitis is a misnomer. The term nephritic retinitis is more appropriate; or, because these eye manifestations are a part of a general arteriosclerosis a better term would be arteriosclerotic retinitis. I concur that at times it is difficult or impossible to diagnose a kidney or arterial disease from the fundus changes without the cooperation of an internist. Numerous writers have mentioned the similarity of appearances of nephritic retinitis to the retinitis of syphilis and to choked disks from intracranial lesions. Therefore, in making a differential diagnosis, the fundus lesions must be considered

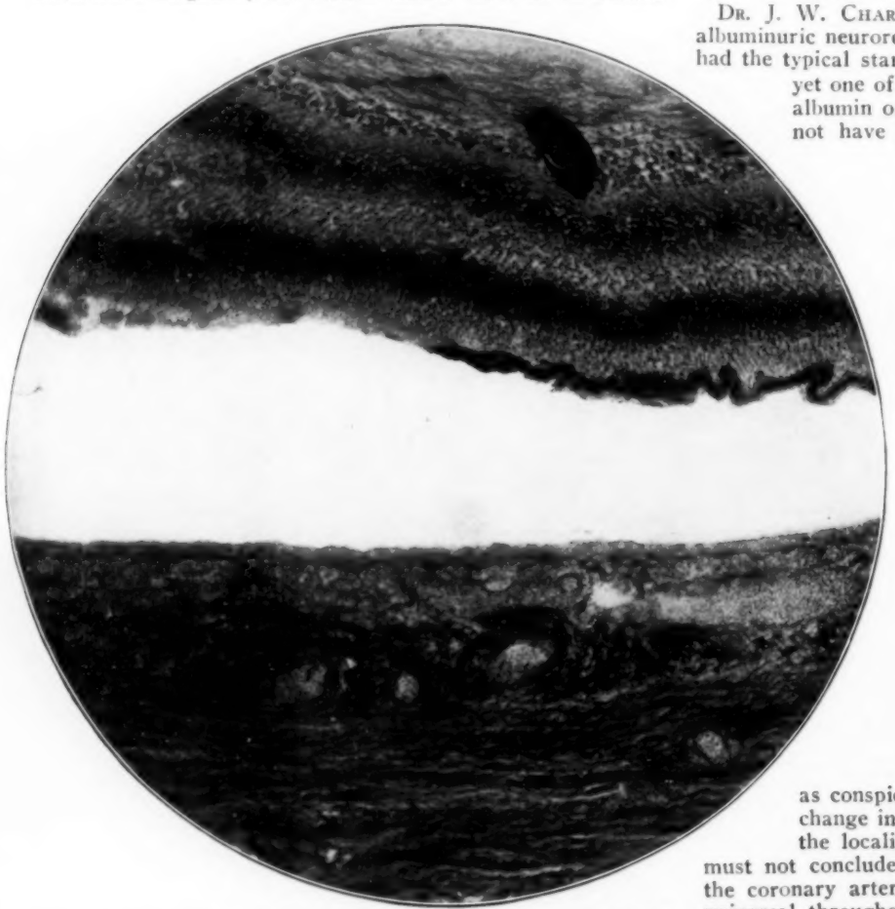

Fig. 23 (Case 18).—Decrescent arteriosclerosis, going on to contraction of kidney. Retina: moderate sclerosis of vessel walls. Choroid: moderate sclerosis of vessel walls.

in connection with all other evidence obtainable. In fact, the ophthalmologist is justified in always calling to his aid a competent internist not only to determine the etiologic factors and the extent of the disease process, but to apply remedial measures more intelligently.

DR. ALLEN GREENWOOD, Boston: The subject of albuminuric retinitis, or retinitis of arteriosclerosis, is an extremely complex one. I have ceased to use the term "retinitis." I prefer to use "fundic changes." Dr. Benedict has described clearly those cases of hypertension in which the fundus picture is suggestive of nephritis, and yet the most careful examination by the internist shows no evidence of kidney disease. I think we all believe, however, that all cases of hypertension of any kind are due to some vascular changes produced by some abnormal condition in the body, or of body metabolism. In some cases the fundus changes apparently are not due to arteriosclerosis. I refer particularly to cases of trench nephritis in which I never found any change in the vascular system of the eye. They were cases of acute, transitory nephritis, in which the picture was similar to the so-called albuminuric retinitis of the edematous type, particularly the hemorrhages and swollen disks, which often disappeared after two or three days, leaving no sign of any fundus changes. They were cases of so-called albuminuric retinitis in which the conditions probably were not due to arteriosclerosis or to arterial changes. Practically all the changes in the eye, except the few instances mentioned, are due to some fibrosis of the vessels or to an actual arteriosclerosis. But we must take into consideration the possibilities of the toxic element as well as the arteriosclerotic element, the latter being, in my opinion, the result of some toxic influence. One reason I am giving up the use of the term "retinitis" is that the vessel lesions are not confined to the retina. The vessels of the choroid may be more sclerosed than those in the retina.

DR. J. W. CHARLES, St. Louis: The very first case of albuminuric neuroretinitis I saw was in a girl, about 20, who had the typical star figure in both retinas, with papilledema, yet one of our best internists could never find either albumin or sugar in the urine and she certainly did not have vascular changes in the retinal vessels. Nothing else pathologic was ever found. She married, and had two children without any kidney disturbance. Is it not possible that this was a case of pure toxemia, perhaps from a disturbance of her endocrines? In 1918, a woman, aged 58, weighing 270 pounds and about 5 feet tall, came to me with loss of sight in one eye in which I found a vitreous hemorrhage, and in the other eye marked strapping with hemorrhages and slight papilledema. She was very short of breath, and her lips became blue frequently. Her blood pressure was: systolic, 260; diastolic, 170; pulse, 90; albumin and hyaline and granular casts in the urine, and a marked myocarditis. I put her to bed and fed her thyroid. Her weight now is 170 and her blood pressure is: systolic, 175; diastolic, 100; pulse, 70; heart slightly enlarged; no albumin or casts in the urine. She seems to be in excellent condition. She still takes thyroid.

DR. W. H. WILDER, Chicago: It has long been recognized that there must be a cardiovascular element that is quite as conspicuous in the production of nephritis as the change in the kidney itself. But we must not forget the localized feature of the vascular changes. We must not conclude that, because there is arteriosclerosis of the coronary arteries or retinal vessels, vascular change is universal throughout the body. Frequently distinct arteriosclerotic changes are present in the fundus of one eye, the other being almost normal. Changes in the retinal vessels do not imply changes in the kidneys or in the coronary arteries. When we meet such conditions we should call to our aid the internist. However, we must be the first to note these peculiar changes, which may be present in the retina and not to any degree in the kidneys or heart. There is a disposition among many physicians to confuse arteriosclerosis with hypertension, not recognizing the variations that exist between them. The persons whose vessels are perfectly elastic can have a plus tension or increased blood pressure up to 220 with perfect safety, but if his vessels are brittle, there is an element of great danger. We must recognize also the inexactness of our methods of testing blood pressure. Our methods of testing tension are not definite, but they are far more correct than the methods that have been devised for testing blood pressure. Furthermore, the character of the person whose blood pressure we are taking must be considered. The blood pressure may not be the same on the two sides. I have noticed the pressure to be different in one arm from the other, even as much as 100 points. This bears out the statement that there

may be localized vascular changes. Whether in these cases the arteriosclerosis is due to the toxic elements in the blood, or whether the element of hypertension plays the rôle assigned to it, or whether it is purely an atheromatous change, is the question to be answered.

DR. S. LEWIS ZIEGLER, Philadelphia: These diverse conditions seem to call for a more general and fundamental etiology, and I think our observation of the underlying sympathetic system is at fault. This would possibly explain somewhat the relation the endocrines bear to this problem. If there is disturbance of the biochemistry, then we are at fault in concluding that the toxic elements are circulating in the blood stream entirely. They are not. They are in the lymph stream. If we could appreciate the fact that there is a localized disturbance of the minute lymphatics of the system it will help us to consider this question from another standpoint. The localized changes in the blood vessel walls are also due to perverted chemistry of the lymphatics. In other words, the manifestation is under nervous control, and the localized disturbance is manifested by perverted chemistry in the lymph secretion. This is often selective in character, but this problem of selective action is a question we cannot solve at the present moment.

DR. E. V. L. BROWN, Chicago: Dr. Cohen has rendered a distinct service by showing conclusively that the vessels in the choroid are changed in the same way as those in the retina. Duke Carl Theodar showed this to be the case about thirty years ago, but there has never been such good substantiation of his findings, as far as I know. In this connection there is great need of demonstrating, as Dr. Cohen has done, the vessel sclerosis; but there should be a keen search for each of the three pathologic features found in the retina —serous exudation, coagulation areas and hemorrhages. Another matter is the polymorphonuclear leukocytosis noted in so many of the cases. So far as I know, Haab is the only one to have found this, and I have seen it denied repeatedly. I think that Dr. Cohen should have given this more than only passing consideration.

DR. W. L. BENEDICT, Rochester, Minn.: It is manifestly impossible to discuss all the phases of nephritis and its possible connection with changes in the fundus. The essential point is to determine what fundus changes mean, and what we can say to the man who refers the patient. Localization of the sclerosis must be considered in the light of the factors which cause the arteriosclerosis. We do not speak of retinitis of hypertension. Hypertension gives this appearance of diseased blood vessels or changed blood vessels without the other changes that should be present to constitute the picture of retinitis. It is only when we speak of these changes with added features that we speak of retinitis of hypertension plus nephritis. Long continued hypertension will cause arteriosclerosis. We know that if high blood pressure continues for a long time there will be changes in the blood vessels, known as secondary arteriosclerosis. The three factors of atheroma, hypertension and toxemia will cause the change in the vessels of the retina, and there will be sclerotic changes which lead to edema, exudates and hemorrhage, associated with added insult to the kidney, and retention of products from renal decompensation.

DR. JOSEPH L. BEHAN, Brooklyn: In the so-called albuminuric retinitis, nephritis, sclerosis of the retinal vessels or of the choroidal vessels is a constant finding. In about 75 per cent. of kidney conditions the fundus shows vascular sclerosis alone or with retinal change, yet albuminuric retinitis is found only in 25 per cent. of cases of nephritis of all types. But sclerosis is not the causative factor. Clinically, we see many cases of systemic sclerosis in which we are unable to demonstrate retinal sclerosis; many cases of retinal sclerosis without systemic sclerosis or hypertension or any form of retinal disease. The frequency of occurrence of vascular sclerosis in nephritis is not sufficient reason for claiming that it is a primary productive factor.

DR. MARTIN COHEN, New York: The difficulty in analyzing the significance of pathologic changes in the fundus to kidney and arterial disease is due to the confusion of various conceptions of kidney and blood vessel disease. From my observations, the greatest proportion of pathologic changes in the fundus are seen in arterial types of kidney disease. According to Drs. Levy and Larkin, there are three distinct types of arterial kidneys: (1) chronic glomerular nephritis; (2) capillary sclerosis—(*a*) a pure type; (*b*) a complex type showing structural changes, and (3) decrescent arterial sclerosis. A study of the fundus in these three types shows arterial changes of varying degree. In fact, it is the characteristic and definite factor common to all. Edema and other pathologic changes are noted in a high percentage of the cases, but by no means in every section. It seems logical, therefore, to conclude that the basic pathologic factor is an arterial change. Though the basic pathologic factor is arterial, it is difficult to understand the exciting or underlying factor causing the pathologic changes. I am strongly impressed with the fact that it is not the nitrogen retention, the hypertension, the toxic elements, nor cardiac hypertrophy which are responsible for the pathologic change in the fundus. However, the exciting factor is dependent on the basic pathology. This idea immediately suggests the difficulty in explaining such fundus changes as are noted in eclampsia and in certain cases of acute nephritis. By acute nephritis I mean an incipient nephritis, not an acute exacerbation of a chronic nephritis. They, of course, cannot be explained on a basic arterial pathology, but they result in a localized edema consequent to a sudden edema of the brain following an acute hypertension which has as its basis an acute glomerular process. The same applies to eclampsia in which a sudden rise of blood pressure causes cerebral edema.

A FURTHER NOTE ON RAPID DILATATION IN THE RADICAL TREATMENT OF LACRIMONASAL DISEASE*

S. LEWIS ZIEGLER, M.D.
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The self-evident fact that the ophthalmologic pendulum has begun to swing from the more complicated extirpation of the lacrimal sac toward the simpler measures of curetting or probing the duct has encouraged me to add a further word in favor of "rapid dilatation" as the procedure of choice in the treatment of lacrimonasal lesions, the technic of which I presented before this section in this city, twelve years ago.[1]

A survey of the various methods employed for the correction of lacrimal lesions reveals the fact that only three measures possess pronounced fields of usefulness: (1) extirpation of the lacrimal sac; (2) dacryocystorhinostomy, and (3) enlargement of the lumen of the duct by (*a*) curettage, (*b*) progressive probing, or (*c*) rapid dilatation.

THREE USEFUL MEASURES

1. Extirpation of the sac is a procedure that gives radical relief from a troublesome mucopurulent discharge when properly executed, but too often there are serious failures. The complications of carious bone and pocketed abscesses cannot always be guarded against, and infection of the external wound may leave a troublesome ectropion. Annoying sequelae in the form of persistent lacrimation or moist eczema of the skin may be quite as disturbing to the patient as the original lesion. Ablation of the palpebral portion of the lacrimal gland may relieve the epiphora, but again we are confronted with the danger of xerosis corneae.

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* Read before the Section on Ophthalmology at the Seventy-Third Annual Session of the American Medical Association, St. Louis, May, 1922.

1. Ziegler, S. L.: The Radical Treatment of Lacrimonasal Disease by Rapid Dilatation and Allied Measures, J. A. M. A. **54**: 2026 (June 18) 1910.

2. Dacryocystorhinostomy, whether performed by Toti's [2] technic or by the later endonasal or window resections of West,[3] Yankauer,[4] Mosher,[5] and Wiener and Sauer,[6] has by no means solved the problem. They all face reclosure of the canal from granulation at the nasal end and recurrence of the lacrimation at the ocular end. Mosher frankly states that "every form of intranasal operation on the lacrimal sac and the nasal duct is only a temporary success unless supplemented with frequent probing or the prolonged wearing of a style." The logical inference from this observation would naturally be, Why not perform rapid dilation in the first instance and thus avoid the endonasal resection, the probing and the style? Furthermore, why seek a *lateral* drain when nature has provided a *vertical* drain which simply needs enlargement by dilatation?

A note of warning should be sounded against the deliberate making of a false passage from the lacrimal canal into the nasal chamber, whether by window resection or by the misguided lacrimal dilator. Such measures are not only unphysiologic, but also possess the fatal defect of permitting the regurgitation of septic sinus secretions, or the still greater danger of allowing the forced expulsion of these secretions into the ocular culdesac by the act of blowing the nose, thus creating a serious menace to the corneal integrity.

To illustrate: About thirty years ago, I treated two patients with overpatulous ducts and septic nasal secretions who suffered from corneal perforation and emptying of the anterior chamber whenever they breathed by mouth for two nights in succession. Nocturnal occlusion of the mouth by adhesive strips gave temporary relief, but it was only by plastic reclosure of the ducts and radical intranasal treatment that recovery was brought about. I have seen one of these patients recently and the result has been permanent; but the too open duct was disastrous while it lasted.

3. Enlargement of the lumen of the duct, whether by (*a*) curettage, (*b*) progressive probing or (*c*) rapid dilatation, is the only true method of restoring the physiologic function of the lacrimal canal. Irrigation is an "allied measure" that I have practically abandoned since the adoption of larger dilators, because natural drainage is superior.

(*a*) Curettage has had its greatest vogue among French ophthalmic surgeons, numerous methods being discussed by Lagrange and Valude.[7] They credit Mandelstamm with having devised this procedure, the technic of which Tartuferri so ably perfected. The procedures employed by de Wecker, Despagnet, Valude, Guaita and others are also described. But they use curettage only when there is proliferation in the lumen of the duct. I have utilized curettage along the same conservative lines. The small spoon-shaped curet with serrated edges that I have used for many years has proved most satisfactory, when its need was indicated.

Curettage has recently been revived in this country by Thompson,[8] who has adopted this technic as his sole procedure. I do not believe that such wholesale destruction of the lining walls of the lacrimonasal canal can prove other than disastrous unless followed by rapid dilatation, as Green [9] has done, since this larger lumen would prevent the raw surfaces from coming into contact and forming union. There is still another danger, that of proliferation of the wounded surfaces in the presence of irritating nasal secretions, thereby forming abundant granulomas over a much larger area, and this neoformation in turn leading toward stricture.

The theory that dacryocystitis is due to the presence of a foreign body in all cases is not tenable. Such an etiology might exceptionally occur, but it would seldom affect both eyes. Villard, in a thorough investigation of the subject last year, found only three examples of this. Irritating nasal secretions are the causative factors in the great majority of cases and that is why free drainage is so necessary, and why radical intranasal treatment should be rigidly carried out.

Benedict's [10] statement that ethmoiditis may complicate dacryocystitis should also be carefully weighed. The roentgen ray would reveal increased density, and vacuum suction may save a radical operation; especially if combined with atropin to inhibit the secretion and an ergot preparation to reduce the congestion.

Thompson's suggestion that an application of 25 per cent. iodin be made to the lining membrane has therapeutic value. I have always used 1 per cent. liquor formaldehydi. Wiener in his paper suggested the application of 40 per cent. silver nitrate, but I think he must mean 40 grains (2.3 gm.) to the ounce, since 180 grains (12 gm.) would prove to be a cauterant.

(*b*) Progressive probing by Bowman's probes up to a No. 6 and by Theobald's in the higher numbers has always seemed a farce to me, because of the wholly inadequate results. In the first place, the caliber to be obtained by a maximum of a No. 6 (1.5 mm.) is not sufficient for drainage and these smaller probes are more liable to lacerate the rugae or to create a false passage by puncturing the lining membrane, their use thus resulting in phlegmon, proliferation or atrophy. In the second place, progressive probing is too slow a process and the frequent repetition of passing probes soon creates an irritability of the tissues that is difficult to overcome. In the third place, if the capillarity of the duct has been sacrificed at the upper end by Bowman's operation and in the midlumen by Stilling's operation, or in its whole extent by prolonged use of the larger probes, you have practically all the elements of a false passage and the patient may suffer its consequences if irritating nasal secretions are expelled into the eye in blowing the nose.

This phase of the subject has been exhaustively discussed by Villard [11] in a monograph of 200 pages, the summary and conclusion of which may be briefly outlined:

1. Absolute value: curative.

(*a*) Congenital dacryocystitis.

(*b*) Simple epiphora.

2. Relative value: temporary relief but not curative.

(*a*) One half of cases fail from permanent obstruction or hypersecretion; if from the latter, the lacrimal gland should be removed.

2. Toti: Ophth. Rev., Oct., 1909.
3. West: Tr. Am. Ophth. Soc., 1910, p. 654; Berl. klin. Wchnschr., 1913, No. 20.
4. Yankauer: Laryngoscope, 1912, p. 1331.
5. Mosher, H. P.: Abstract of Discussion on Chamberlain, W. B.: The Endonasal Operation on the Lacrimal Sac, J. A. M. A. **69**: 17 (July 17) 1917.
6. Wiener, Meyer, and Sauer, W. E.: A New Operation for the Relief of Dacryocystitis Through the Nasal Route, J. A. M. A. **75**: 868 (Sept. 25) 1920.
7. Lagrange and Valude: Encycl. franç. d'Ophth. **9**: 3, 1910.
8. Thompson, N. R.: The Rational Etiology and Satisfactory Treatment of Dacryocystitis, J. A. M. A. **71**: 1727 (Nov. 23) 1918.
9. Green, J., Jr.: Treatment of Dacryocystitis by Curettage (Thompson), Tr. Sect. Ophth. A. M. A., 1919, p. 354; Am. J. Ophth. **2**: 723 (Oct.) 1919.
10. Benedict: Discussion on Wiener and Sauer (Footnote 6).
11. Villard: Value of Catheterization in the Treatment of Lacrimal Affections, Bull. et mém. Soc. franç. d'opht., 1921.

(*b*) Slight and recent dacryocystitis; improve temporarily, but relapse.

3. Negative value: not cured or improved, absolute failure.

(*a*) Chronic dacryocystitis; suppurative or mucocele; ectasia and stenosis. Irrigation; local treatment to lacrimal mucosa; cauterization or extirpation of sac, not a positive cure. Physiologic operation to restore function should be devised.

(*b*) Acute dacryocystitis is neither cured nor ameliorated by probing.

(*c*) Tuberculous dacryocystitis should have systemic or climatic treatment. If necessary, the sac should be cauterized or extirpated.

(*d*) Finally, in fistula, extirpation, cauterization and curettage should be performed.

4. Conclusion: Catheterization (alone) is of value, but is overrated. Extirpation of the sac will hold first place until a better procedure is devised.

As this summarized report was based on information collated through a questionnaire, it should fairly well represent the present status of opinion among French ophthalmologists. It does not favorably impress one with the value of small probes.

(*c*) Rapid dilatation for the radical relief of lacrimal obstruction arising from dacryocystitis and its attendant disorders has always been my procedure of choice. This obstruction may be located in the canaliculus above, in the valve of Hasner below, or in the bony canal between; but in the majority of cases there is interstitial thickening of the lining membrane throughout the whole length of the canal. The occlusion below, however, may be increased by pressure of the inferior turbinate on the nasal mouth of the duct. Whether the narrowed lumen is caused by catarrhal inflammation, suppuration, interstitial thickening, cicatricial stricture, or disease of the bone itself, the formation and maintenance of a patulous duct is the one essential thing required to restore the impaired physiologic function. Whenever the duct regains its free drainage, practically all other lesions within its lumen recover spontaneously. The larger the lumen, therefore, the more effective the treatment.

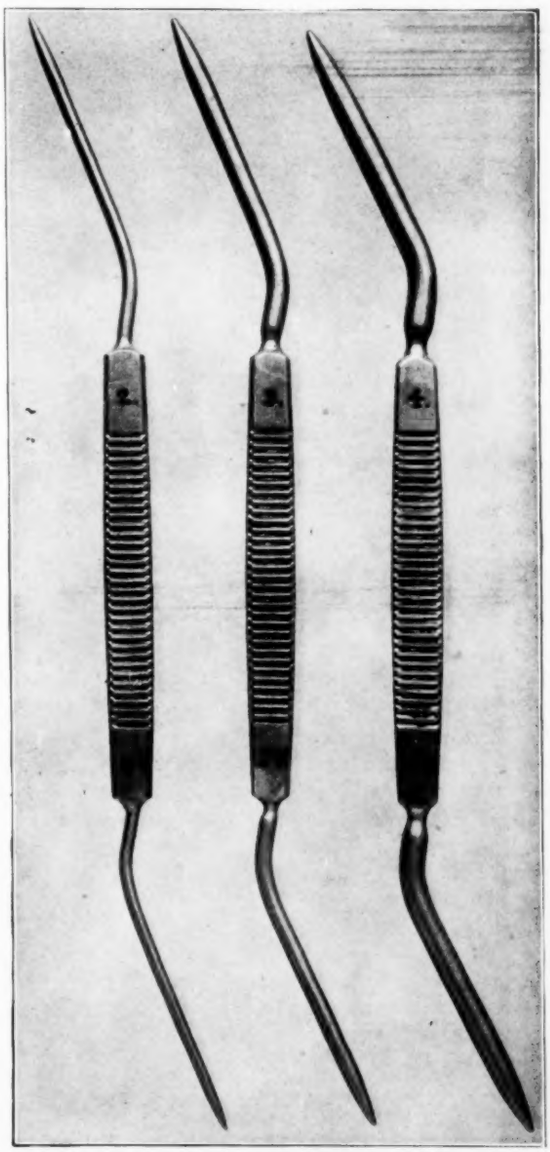
If, then, a large caliber is necessary, we should accomplish this by forcible dilatation, ad maximum; avoiding, however, incision of the punctum or canaliculus in order to preserve the capillarity of the duct. This should be done, preferably, at a single sitting and be classified as a definite operative procedure. If, however, for any reason whatsoever partial reclosure should occur, the dilatation should be repeated. My records show that less than 1 per cent. of my cases have required this repetition.

It is necessary, wherever possible, to preserve the capillarity of the duct in order to maintain downward siphonage of the tears and thus utilize nature's method of irrigation. This, in turn, prevents reversed capillarity with regurgitation of chemically irritating and septic sinus secretions from the floor of the nose.

IMPROVED LACRIMAL DILATOR

About ten years ago, I decided that my dilator would be more effective if I slightly increased its size in two dimensions. The length was increased 10 mm., making it 40 mm. long, so as to reach and stretch the valve of Hasner and press back the crowding inferior turbinate, and its caliber was increased by 1 mm., from 2.5 and 3 mm. to 3.5 and 4 mm. (from Nos. 10 and 12 to Nos. 14 and 16), so that a more liberal allowance for possible contraction might be made. The advantages of this change have been evident in many ways, chiefly in eliminating many of the "allied measures" that I discussed in my former paper: (1) curettage; (2) incision of punctum; (3) stricturotomy; (4) lead styles; (5) irrigation. I do not assert that I never resort to these measures now, but I do insist that with the attainment of the larger caliber I seldom have to use any of them.

In revising my model, I further decided to make up a set of dilators in three sizes, Nos. 6 and 8 (1.5 and



Ziegler's lacrimal dilator: at left, No. 6 (1.5 mm.), No. 8 (2 mm.); in center, No. 10 (2.5 mm.), No. 12 (3 mm.); at right, No. 14 (3.5 mm.), No. 16 (4 mm.).

2 mm.), Nos. 10 and 12 (2.5 and 3 mm.) and Nos. 14 and 16 (3.5 and 4 mm.) that would cover every contingency of probing or rapid dilatation. I have discarded my needle probe and now use a No. 6 or 8 in the same way, since they correspond in size. As a rule, I have been using a No. 14 and occasionally a No. 16, to dilate in the majority of my cases. This is well within the conservative limits laid down by Theobald,[12] who stated that the dry bony canals examined by him aver-

12. Theobald: Tr. Med. & Chir. Faculty of Maryland, 1877, p. 154.

aged 4.11 mm., while the moist mucoperiosteal canals in the cadaver calibrated from 4.47 mm. to 5.25 mm. One would naturally infer that the lacrimonasal canal in vivo is still more distensible; which I have found to be a fact.

Even in babies suffering from congenital atresia or dacryocystitis, I usually employ the No. 12 dilator, which passes easily because the bone is still flexible and the duct quite distensible. I have recently examined two patients, now young women, in whom dilatation was performed by me shortly after birth. The puncta had a normal appearance and the ducts were functioning properly.

The general shape of my dilator has not been changed. It is made of forged steel to avoid any danger of bending when force is applied, which is necessary when these larger sizes are used. Two sizes are joined together on a single bayonet handle, which prevents the eyebrow from interfering. The body of the dilator is a long cylinder, but the point is ovoid or bellied, with a sudden widening of the caliber just above the apex. This allows it to dilate the duct so rapidly that the tissues recede from the point and this in turn prevents the point from catching in the mucous lining of the canal. The body of the dilator never becomes wedged in the bony canal, as with the cones of Levis or Weber. It is not possible, therefore, to make a false passage, unless caries has developed a weak spot in the bone, and not then if the correct direction is maintained.

OPERATIVE TECHNIC

Anesthesia.—Cocain and epinephrin, or preferably butyn and procain, are employed. Nervous patients should have general anesthesia, as some pain will ensue.

First Stage.—The lower lid should be drawn down and out, with the left hand. Holding the small dilator (No. 6) vertically in the right hand the point is inserted in the punctum with slight force. A feeble "click" may be heard.

Second Stage.—Still holding the lid tense, the dilator is now lowered to horizontal and pushed slowly but firmly through the canaliculus until its point rests solidly against the bony wall of the sac. As it enters the sac, a second click may be heard.

Third Stage.—The small dilator (No. 6) is now withdrawn and the large dilator (No. 14) inserted by the same maneuvers used in the first and second stages, until firm bony resistance is felt.

Fourth Stage.—The lower lid is now released. The shaft of the dilator is raised to the vertical, half rotated on its long axis until the bayonet shoulder of No. 14 is turned backward. Grasping the shaft tightly and still hugging the bone, the point of the dilator describes a half curve back and down, and then slightly forward as it passes through the nasal duct into the nose. It is then grasped firmly and withdrawn. Both of these movements require considerable force.

As the lower tip of the dilator scrapes the nasal mucosa there may be nose bleed. There may also be a crackling sound from fracture of some thin bone, but it is unimportant, except that ecchymosis may follow. There may be a small rupture of the canal lining, which would permit emphysema if the patient should blow his nose; or edema if irrigation is attempted during the first week. Rupture of the punctum is frequent, but usually heals promptly.

AFTER-TREATMENT

The after-treatment includes simple flushing of the conjunctival culdesac with borated solution and epinephrin (1:16) together with a daily application of 1 grain (0.06 gm.) silver solution until the discharge ceases. Ecchymosis and emphysema can both be ignored.

The indications for rapid dilatation are those that I have described in my previous paper. I might add that when annoying epiphora follows extirpation of the sac, I have passed the dilator through the scar tissue, *secundum artem*, and made a new canal, in which a lead style was introduced in order to form an artificial but efficient tear duct, somewhat as in perforating the ear lobe for an earring.

CONCLUSION

As soon as lacrimonasal obstruction is diagnosed, rapid dilatation of the tear duct should be performed in order to secure a permanent patulous lumen with free drainage. The value of this procedure lies in the rapidity of dilatation, the avoidance of repeated probing and the retention of capillarity in the duct.

I cannot too strongly emphasize the nasal etiology of these cases and the consequent need for radical treatment of the nose. As sinus hypersecretion indicates hyperesthesia of the area over the septal tubercle, this should be carefully cauterized. All adhesions and other obstructions to free breathing should be removed. The nearer the nose approaches to normalcy, the less lacrimal treatment will be required.

1625 Walnut Street.

ABSTRACT OF DISCUSSION

DR. A. J. BEDELL, Albany, N. Y.: I have used this method constantly, but never on the lacrimal ducts of infants. The many advantages of this operation are well stated in the paper. Occasionally the emphysema and ecchymosis are so extreme that unless those in charge are told of the condition they are very likely to call one at the wrong time of day and worry unnecessarily. Some others, following rapid dilatation, return to the family physician or to some eye man who believes he can accelerate recovery by syringing, and I have seen some ill results from the effects of argyrol and protargol. The subject of nasal etiology I am sure is clinically too often forgotten. Many patients come because they have lacrimation or suppuration, and they feel that, if we do not immediately operate on the lacrimal sac or the lacrimal canal, we do not appreciate the disease. So I wish to emphasize the fact that often lacrimation and secondary sac infection are of nasal origin.

DR. JOHN A. DONOVAN, Butte, Mont.: With the operation and treatment advised I agree, but I have made false passages with the Ziegler probe, so I have returned to my original method, using Theobald's probes. A little cotton pad wet with 10 per cent cocain solution is applied; then the puncta are slightly dilated; 20 per cent. procain-epinephrin solution is injected; a No. 6 (preferably) Theobald probe, or may be only a No. 4, is passed. If anesthesia is not complete, more than 20 per cent. procain solution is injected very slowly into the sac; then, after waiting a while, one passes Nos. 8, 10 and 12 in rapid succession, increasing to 14 or even 16, till one feels a slight cracking of the bone. The use of No. 16 is very rarely necessary. The last one passed is left in place half an hour after it has first been pulled out about one-eighth inch to relieve pressure on the floor of the nose. I usually make a slit with the knife directed up and inward through the puncta; in fact, I always do this in chronic pus cases. I repeat the passage of a probe, a size smaller, at increasing intervals if the the first operation does not cure, and continue at intervals till the cure is permanent. I have never seen a very severe reaction from this except when the use

of procain has to be repeated. All probes are passed within a period of not more than a few minutes.

DR. GEORGE F. KEIPER, Lafayette, Ind.: I can dilate these ducts considerably; but with the first cold, the tear ducts of some of these patients contract, and I am compelled to do the work all over again. I have resorted to all sorts of methods to keep them open, but yet they will stenose. I think that all patients with lacrimal duct stenosis should be warned that when they have the least sign of returning lacrimation they should return for further treatment. The point with reference to the nasal conditions present is well taken, for I am firmly of the belief that the origin of this trouble is in the nose, not in the eye end of the duct. I wish to direct further attention to the work of Shoeffer on the anatomy of the tear passages.

DR. WILLIAM ZENTMAYER, Philadelphia: It seems to me that so radical a procedure as Dr. Ziegler suggests should be limited to the most serious cases. I do not believe in giving a case of long standing chronic dacryocystitis any other treatment than extirpation of the sac. The mucous membrane in these cases is what the old surgeons used to call a "pyogenic" membrane. Simple drainage will not restore it to a normal condition. If one wishes to effect a cure, extirpation of the sac must be done. There is no need for the use of a dilator such as Dr. Ziegler uses in infants. The obstruction in most of these cases is caused by a fold of mucous membrane with retention of secretion. We disturb the anatomic relation when we use a probe of this size. A No. 1 probe will secure the same results. Indeed, simple syringing is sufficient in a majority of cases.

DR. E. C. ELLETT, Memphis, Tenn.: I would like to dissent from the use of this rapid dilatation method with a large probe in infants. The condition there is not at all analogous to the lacrimal obstruction in older persons. It is merely a failure of the detritus to disappear completely from the lacrimal canal. All one needs to do is to pass something through it once and it will be relieved. That is easily accomplished by a small probe.

DR. W. R. THOMPSON, Fort Worth, Texas: Rapid dilatation in case of membranous or fibrous constriction above or below the bony canal in the absence of pus is scientific. Rapid dilatation for the cure of purulent dacryocystitis with stricture of any kind within the bony canal, unless by the passage of the probe the obstruction can be removed completely, is unscientific. My contention is that all obstructions or strictures within the bony canal should be removed and not dilated. Also all granulation in the sac or duct above and below the strictured area should be removed by curetting carefully and scrubbing before the application of tincture of iodin to the sac and duct. I cannot understand how much benefit could possibly come from the passage of any probe through an infected sac lined with granulation tissue and through a bony duct with a calcareous or cicatricial stricture. The fear that with the curet the lining of the duct is in jeopardy is based on lack of consideration of the technic and of what takes place following the operation. To be sure, the lining, if such there be, overlying the strictured area is destroyed when the obstruction is removed with the curet, but it is also destroyed when a large probe is forced through a small duct and, in some instances, an area with no opening. With the curet in skilful hands the normal caliber of the bony duct can be restored without destroying its lining save at the constricted point. This is accomplished by using first a very small curet, passing it gently step by step until the obstruction is located. The manipulations are limited to this area, and when the opening grows too large to get further results the next larger size curet is used in the same manner, and so on until the lumen of the duct is restored. Not only can the gross pathologic condition be removed by this method, but a distinct polish can be given by the guidance of the tactile sensations of the operator. There is but little swelling following this procedure because of the absence of soft tissue. A slight sanguineous discharge into the nose for a day or two precedes the covering of this area by an extension of the lining membrane from above and below. I do not consider rapid dilatation indicated when the normal caliber has been obtained otherwise. In other words, I consider the duct as provided by nature sufficiently large to give ample drainage. I was told by an ophthalmologist that he had passed a moderate size probe through a lacrimal duct, following which sufficient hemorrhage into the orbit took place to destroy the sight. I can understand how such a complication could easily arise in any case of fracture, but it would not follow the proper use of the curet. I have yet to see a case of false passage or fracture follow its use.

DR. ALLEN GREENWOOD, Boston: I wish to call your attention to the most admirable demonstration of Professor Schaefer before the International Congress on the development of the nasolacrimal duct. He showed that frequently the lower culdesac of the duct did not penetrate to the nasal cavity, and there would be a little membrane across. All that is needed in aiding the opening of the nasal lacrimal duct in children is to puncture that little membranous stricture at the bottom. I have never used rapid dilatation for any baby, infant or young child, as I have never found it necessary.

DR. JOHN GREEN, JR., St. Louis: I believe that Dr. Thompson's method of curettage is beneficial in some cases. In my experience it has yielded more permanent results when supplemented by rapid dilatation. Rapid dilatation, or curettage supplemented by rapid dilatation, or curettage alone will yield good functional results in many cases. Let us not forget, however, that many lacrimal sacs are irremediably pathologic, and in such cases, even with drainage reestablished, it is a question whether pathogenic micro-organisms may not still make their way into the conjunctival sac. If one has to open the globe, it seems much safer not to trust to anything less than destruction or removal of the sac.

DR. J. W. CHARLES, St. Louis: I agree with Dr. Ellett regarding rapid dilatation in infants. I believe that, as a rule, probe passing will be all that is necessary. One of my first patients was a boy of 19 who had what was supposed to be a congenital closure of the duct. I could get into the bony passage but not through it. After several days I used a dental burr and succeeded, by bearing down with all my strength, in crashing into the nose. After that I succeeded in passing a probe, and taught the patient to pass it, since he was going far away. He used a No. 6 Bowman probe until he recovered. In a year he wrote me that he was entirely well. I have since that time, in selected cases, taught patients to pass a probe in the same way. I would not advise it in every case.

DR. S. LEWIS ZIEGLER, Philadelphia: In regard to the criticisms made of radical or conservative treatment, I would characterize the procedure as "radical conservatism." Fear never conquers new territory. I have practiced this technic ever since I have practiced ophthalmology. I have not had complications, and I think that for this reason I am entitled to say it is a most conservative treatment. I may use the dilators in larger sizes than others do, but I think that that is the secret of my success. As to the question of dilating in infants, very often atresia complicates dacryocystitis, which is very serious. The anatomy is not disturbed. I simply stretch the canal, and Nature does the rest. There is no injury to that canal, and I do not feel any hesitation in using a No. 12 probe, although if you choose to use a smaller size, very well; but I know that the No. 12 is more successful. As to recovery from the purulent membrane, I think that it is comparable to the question of getting rid of the causation of sinus disturbance by cauterization of the septal tubercle. Many cases of sinus disturbance may be escaped by such intranasal treatment. I do not think that wholesale curettage is an advantage. There are a few cases in which it is required, but one can avoid curettage in many cases by increasing the size of the dilator from No. 12 to No. 14. In other words, Nature will take care of the lining mucosa of the duct, provided the underlying nasal lesion is corrected; but unless this is done, there will be a recurrence. The Theobald probe is the same size as my dilator. I do not see why it should not be used as well. The point of my dilator, I think, is better than Theobald's because it hangs free as it plows through the canal, while the tissues move back and away from the point. My dilator is cylindrical in form, and passes like cutting

through cheese, while the old Lewis and Weber dilators are conical, and so block the bony canal. The same principle is observed in my knife needle. If the sides of the shank are parallel, one can make a sawing motion; but if they diverge, the shaft will stick in the cornea. I can recommend rapid dilatation as being the most satisfactory procedure in my surgical armamentarium.

DUODENAL DIVERTICULUM WITH ULCER ON OPPOSITE WALL

REPORT OF CASE *

WALTER M. JONES, M.D.
Surgeon, U. S. Public Health Service
ST. LOUIS

The literature concerning duodenal diverticulum has been so recently reviewed by E. C. Moore [1] that I will proceed at once with the history of the case.

REPORT OF CASE

History.—E. A. H., a white man, aged 31, married, a grain dealer, who entered the hospital, Feb. 16, 1922, complained chiefly of pain in the upper abdomen, "dull and dead" in character, coming irregularly and usually one hour after meals, but relieved by food and alkalis; also pain in the lower right quadrant. He stated that he suffered from constipation, headache, anorexia, insomnia, dizziness and nervousness, and had to take alkalis constantly. There was no family history of malignancy, tuberculosis or insanity. The mother, father, three brothers and three sisters were living and well. The patient used no alcoholic liquors or drugs. He smoked cigarets to excess. He had had the usual diseases of childhood, and influenza and pneumonia in 1918; he had suffered no injuries; the stomach symptoms first occurred in 1918, and he had been unable to work since. He was treated for this trouble by eight or ten physicians, and the gallbladder was removed without any improvement. The surgeon told him that no ulcer of the stomach could be found and that the appendix was normal at the time of operation.

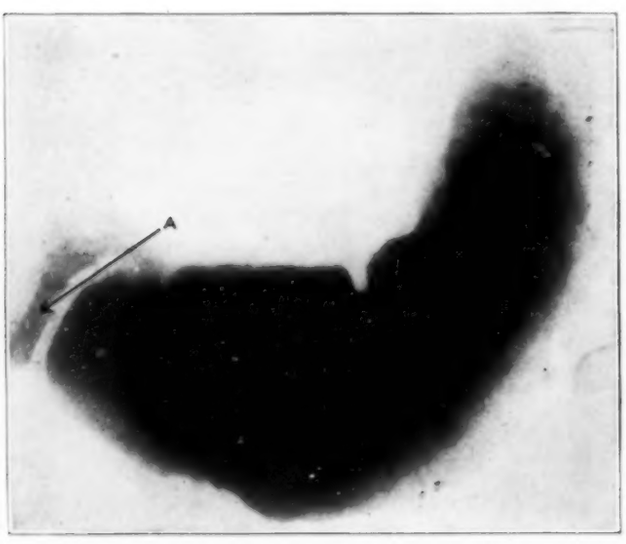


Fig. 1.—Prone position, exposure immediate: *A*, duodenal diverticulum.

Physical Examination.—The patient was ambulatory; the weight, 135 pounds (61 kg.); the height, 70¾ inches (180 cm.); he was apparently underweight; he had an intelligent appearance, with drawn expression. The head, neck and chest were normal. There was a 5-inch (12.5 cm.) cholecystectomy scar on the abdomen; there was marked tenderness over the right upper quadrant; splashing sounds were heard over the stomach; there was no rigidity and no palpable masses. Knee jerks were exaggerated; otherwise examination of the nervous system was negative. The blood pressure was: systolic, 128; diastolic, 78; pulse, 74. The gastro-enterology section reported that the patient had intermittent and aching pain under the xiphoid extending to the region of the gallbladder, usually coming on shortly after he lay down and worse when he lay on the left side, and then he had to lie on the back to get relief. The pain was relieved in four or five minutes by taking alkalis.

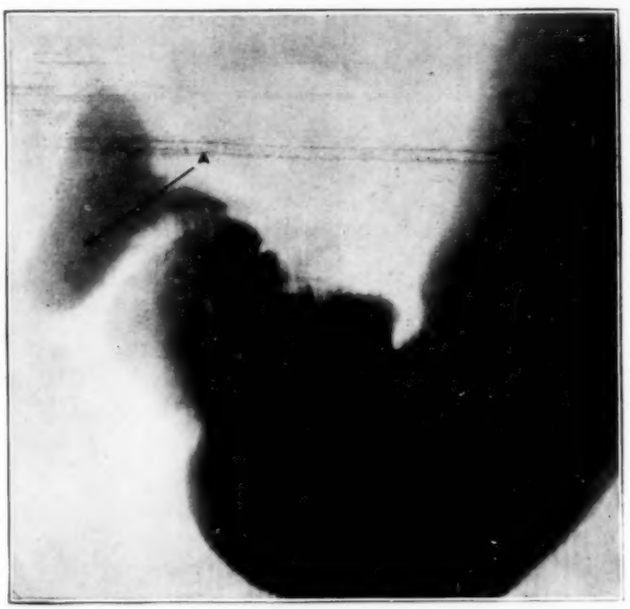


Fig. 2.—Appearance five minutes later: *A*, duodenal diverticulum.

Laboratory Reports.—Before entering the hospital, the patient had been examined by a physician at Omaha, who reported in December, 1921: "Gastric analysis (routine method): Quantity, 100 c.c.; total acidity, 35; free acidity, 20; loosely combined, 15; free hydrochloric acid, 10; no occult blood; no lactic acid. Microscopic: Few starch granules and yeast cells, occasional epithelial cells." An Omaha roentgenologist in December, 1921, reported "a rather large, slightly dilated stomach with rather marked increased peristaltic action, which empties rather slowly. At the end of the five-hour period practically one half of the gastric contents are retained within the stomach. The cecum and colon do not begin to fill at the end of five hours. The duodenal cap is missing at times and never normal; very nearly normal, however, at times. Cap may or may not have a pathologic condition. He has a slight, constant, prepyloric deformity at the upper portion of the stomach, just ahead of the pylorus. Roentgenographically, there is a pathologic condition of the upper right quadrant, probably prepyloric and possibly postpyloric from either within or without the gastric tract. At any rate, there is sufficient disturbance to interfere with gastric emptying."

At the hospital, the Wassermann reaction was negative. Examination of the stomach contents revealed: free hydrochloric acid, 50; combined, 12; total, 62; occult blood, negative; mucus, negative. Blood examination revealed: erythrocytes, 5,420,000; leukocytes, 9,800; hemoglobin, 95 per cent.; no parasites; small mononuclears, 19 per cent.; large mononuclears, 9 per cent.; eosinophils, 1 per cent.; neutrophils, 71 per cent. Examination of the feces was negative for pus, mucus, occult blood and parasites. The urine was normal.

Preoperative roentgen-ray examination of the chest revealed increased bronchial shadows in the left, upper pulmonary lobe. There were adhesions at the base of the left

* From U. S. Veterans Hospital No. 35.

1. Moore, E. C.: Duodenal Diverticula, Arch. Surg. **1**: 513 (Nov.) 1920.

lung to the diaphragm. The stomach was moderately enlarged, somewhat elongated and slightly ptosed. There was increased gastric peristalsis. There was a small, constant, filling defect on the gastric lesser curvature near the pylorus. The stomach was much slower than normal in emptying time, about one fifth of a barium-buttermilk mixture being retained in the stomach seven hours after being taken. There was a long, constant, filling defect on the patient's right side of duodenal origin, when viewed directly from the front, as if an elongated duodenal ulcer on that side of duodenum, and a small, constant filling defect on the patient's left side of duodenal origin, showing a definite duodenal ulcer at that point. On "blocking off" of the duodenum by pressure of the left hand over the duodenojejunal junction and completely filling the duodenum by manual pressure of the right hand over the greater curvature of the stomach, these filling defects showed very plainly, and, when the patient was rotated so that his right side was next to the fluoroscopic screen and his duodenal origin was viewed laterally, a large diverticulum was seen to extend forward from the duodenal origin, and the filling defect first noticed on the patient's right side of duodenal origin was proved to be the overlapping shadow of this diverticulum. The duodenum curved directly backward from this point so that its descending portion was directly behind the diverticulum mentioned. A diagnosis was made of an anterior duodenal diverticulum about 7 cm. in length and about 2 cm. wide, and of duodenal ulcer on the upper left duodenal wall opposite the opening of the diverticulum. The appendix could not be filled at any time and was pathologically occluded.

Operation.—February 27, under ether anesthesia, gastro-enterostomy, pyloroplasty and appendectomy were performed. The area of operation was cleansed with alcohol, ether and iodin. An upper right rectus incision was made through the skin, superficial fascia and rectus muscle. The abdomen was opened. Adhesions of the stomach, duodenum and colon were separated from the liver and the anterior abdominal wall. The posterior wall of the stomach was pushed through an opening made in the transverse mesocolon and sutured to its edge. One side of a Roosevelt clamp was applied to the posterior wall of the stomach, the other blade being applied to the jejunum about 4 inches (10 cm.) from the angle of Treitz. A three-row gastro-enterostomy was performed, chromic catgut being used as suture material. A hole was burned by the actual cautery through the base of a large duodenal ulcer, which was then invaginated, as was also the diverticulum of the duodenum. The cecum was pulled forward; the mesentery of the appendix was ligated and severed. The appendix was ligated, and removed by the actual cautery. The stump was invaginated by a double purse-string suture of catgut. The cecum was replaced. The peritoneum was closed by a running suture of plain No. 2, the muscle by plain No. 2, the sheath by chromic No. 2, and the skin by a running suture of linen.

Pathologic Report.—At some former operation this patient had the gallbladder removed. Following this, extensive adhesions were formed; the greater curvature of the stomach and the pylorus were bound to the chest wall, and the liver about 2 inches above its lower margin. There were vast adhesions between the omentum and colon on the anterior abdominal wall. A sharp kink was found in the duodenum 6 or 7 inches from the pyloric ring. A large indurated duodenal ulcer, which had evidently perforated at some previous time, was found about 1½ inches from the pyloric ring, on the duodenal side and the upper surface. Just opposite this ulcer, on the lower side of the duodenum, was a diverticulum, probably caused by the back-up in the duodenum due to the kink where it turned about the head of the pancreas. Photographs were made of this ulcer and pouch. The appendix was about 5 inches long, bound down at its lower end to the posterior abdominal wall, and contained an enterolith about the size of a small marble. This enterolith was extremely hard and was movable like a ball valve inside the appendix from its base to within 1 inch of its tip, where the appendix was acutely kinked.

Postoperative Roentgen-Ray Report.—The gastro-enterostomy opening was functioning well. The duodenum could be filled through the pylorus by moderate pressure accompanied by proper massage of the stomach; its duodenal origin was somewhat irregular, but normal in size. There was no appearance of any duodenal diverticulum at this examination. The stomach was somewhat slower than normal in emptying time. The appendix was not visualized at any time.

COMMENT

The patient's symptoms were immediately relieved by the operation, although it is too soon to forecast the ultimate result.

Next to diverticula of the stomach, those of the duodenum are the rarest; since the advent of the roentgen ray, however, this is now being reported rather frequently, although not so regularly found at operation. I have been able to find not more than three or four cases in which an ulcer of the duodenum was located opposite the mouth of the diverticulum, as in our case.

The staff roentgenologist believes that the reason the diverticulum in this case was not discovered in previous examinations was that the "blocking method," with the patient turned laterally, was not used.

I believe that the pain in this case was due to the filling of the diverticulum, and not to the duodenal ulcer, because under the fluoroscope the characteristic pain was brought on when the diverticulum was filled by manual pressure; it is possible, of course, that the barium-buttermilk stream first irritated the ulcer before being diverted into the diverticulum.

The ulcer was large, hard and indurated, and very probably existed at the time of the former operation; but it is difficult to conceive of the large enterolith forming in two years.

All coats of the duodenum were involved, and I believe it was a true wide-mouthed diverticulum of the duodenal vestibule, and not an ulcer diverticulum as described by Judd.

Congenital diverticula are most frequently on the pancreatic side of the duodenum and only a short distance from the pylorus, as in this case. Yet I am not prepared to say whether it was congenital or acquired.

Duodenal diverticula frequently cause gallbladder symptoms, and it is not surprising that a cholecystectomy was previously performed on this patient.

It is surprising, however, that the roentgen ray did not disclose the marked malposition of the stomach as found at operation. I believe that this malposition was the cause of the suspected ulceration of the lesser curvature.

How Long Does a Mosquito Retain Malaria Parasites?—In a preliminary study to determine the maximum length of time the plasmodium of malaria remains viable in infected mosquitoes, Bruce Mayne, U. S. Public Health Service, found the plasmodium in the salivary glands of five specimens of *A. punctipennis*, 68, 70, 71, 83 and 92 days, respectively, after infection. The mosquitoes had bitten a crescent carrier on a single occasion, and were kept at room temperature for 6 days, then kept in a container registering from 44 to 83 F. for the remainder of the experiment. Three mosquitoes, which were kept under conditions identical with the five just mentioned, failed to convey malaria plasmodia through biting 61, 66 and 67 days, after infection; but plasmodia proved viable by inoculation into a human host by the bite of a mosquito infected 55 days previous. The longest period of survival of uninfected anopheles kept under artificial conditions on a diet of split dates and water was 231 days. Eighty-five specimens of *A. punctipennis* kept without blood lived an average of 90.4 days. A single specimen of *Culex territans* lived 265 days at room temperature on a diet of fruit juices.

Clinical Notes, Suggestions, and New Instruments

THE CONTROL OF EARACHE THROUGH THE NASAL (SPHENOPALATINE, MECKEL'S) GANGLION *

GREENFIELD SLUDER, M.D., ST. LOUIS

The relief of earache through or by means of the nasal ganglion apparently falls into the category of those cases of ocular, mandibular and glossal pain that can be relieved in this way. No anatomic facts can be offered in explanation of these phenomena.

Earache is not an uncommon feature in the syndrome of nasal ganglion neuralgia, and may be an isolated manifestation. In these cases, examination of the ear is negative in every way. This fact has been mentioned often in the course of the description of that syndrome.[1]

Recently I have discovered that the pain of inflammatory disorders of the middle ear in patients who were not sufferers from nasal ganglion neuralgia could be stopped by cocainization of the nasal ganglion. To what extent or with what frequency this may prove true, I do not know at present. It appears, however, to be a phenomenon worthy of investigation. Its therapeutic value would seem obvious, were it a fact of reasonable frequency.

I have had nine cases of earache accompanied by more or less congestion of membrana tympani, one with obliteration of the landmarks without pouting, two middle ear abscesses with pouting, one general reddening of the membrane with tinnitus, and the others with congestion of the handle of the malleus (eustachian tube cases) that were relieved by cocainization of the nasal ganglion. In one of the abscesses, the relief was for only a few minutes. In this case, there was reason to think that only a very small part of the cocain was absorbed. In the other case, the relief was complete, but it did not at all prevent the pain of paracentesis. In the case of reddened membrane with tinnitus, the relief of pain and tinnitus was complete with one application, and they did not return. This was true of the case with the obliterated landmarks of the membrane, and the cases of slight irritation of the eustachian tube.

Goldschmidt-Osmund[2] has recorded some most interesting observations on headache relative to the sphenoid and nasal ganglion, one of which is the categorical statement that all syphilitic headache is controllable by cocainization of these parts. This is another phenomenon to be added to those without anatomic basis as explanation.

Two most interesting observations in this category have been made very recently. Bryan[3] reported a case in a man, aged 35, of herpes zoster of the rami zygomatici temporales and rami zygomatici facialis branches of the maxillary and nervus supra-orbitalis and nervus frontales branches of the ophthalmic nerve, with pain in the distribution of these nerves and deep in the eyeball. The patient said he thought his eye "would burst." The pain in the forehead was controlled by the application of one drop of saturated solution of cocain hydrochlorid through the ostium of the sphenoid. The pain in the eye was uninfluenced by this. Application to the sphenopalatine foramen region relieved the pain in the eye. The pain in the temple remained, explicable probably because the application to the sphenopalatine foramen anesthetized only the vidian side of the ganglion and did not influence the maxillary nerve, which coincides with the argument that the control of the severe pain described as inside the eye by cocainization of the nasal ganglion is accomplished through or by means of the sympathetic nerves.

The second observation was reported by Guggenheim,[4] who records a case of a woman, aged 75, who had an acute, intense earache with throbbing, accompanied by great pain in the mastoid and tragus and upper part of the external canal, and marked tenderness to touch. The drum and canal were normal on inspection. One-half grain of codein every three hours failed to relieve the pain. No rhinitis or paranasal cell disease was recognizable. Application of 5 per cent. solution of cocain hydrochlorid to the nasal ganglion region stopped all pain, and the tenderness to touch in the canal and tragus. The application was made twice, after which the pain did not return.

3542 Washington Avenue.

* Read before the American Laryngological Association, May 3, 1922.

1. Sluder, Greenfield: Headaches and Eye Disorders of Nasal Origin, St. Louis, C. V. Mosby Company, 1918.
2. Goldschmidt-Osmund, Bruno: Arch. f. Laryngol., 1921, No. 34.
3. Bryan, W. M. C.: Paper read before Laryngological Section of St. Louis Medical Society, April 20, 1922.
4. Guggenheim, L. K.: Paper read before Laryngological Section of St. Louis Medical Society, April 20, 1922.

APPLICATION OF MALLORY'S CONNECTIVE TISSUE STAIN TO FORMALDEHYD-PRESERVED TISSUES *

LESLIE B. AREY, PH.D., CHICAGO

No differential stain is more fundamentally important than Mallory's acid fuchsin anilin blue orange G method, which differentiates brilliantly collagenous fibers and reticulum from muscle fibers, neuroglia and other elements. Its use, however, is limited to tissues which have been fixed in Zenker's solution, although somewhat inferior results are obtained after mercuric chlorid preservation. As most routine clinical material is received in formaldehyd solution, this fixation requirement seriously restricts the usefulness of the method; to be sure, Mallory originally gave a modification for formaldehyd material which was said to produce fair results, although best suited to the central nervous system; this involves prolonged treatment with picric acid, followed by ammonium bichromate and incubation; it is not mentioned in his "Pathological Technique."

Several years ago it became necessary for me to differentiate muscle and connective tissue in material obtained from sources when formaldehyd preservation only was expedient. By good fortune I learned from Prof. Carl G. Hartman of the University of Texas that he had used Mallory's stain successfully under like conditions by first mordanting the tissue in chromic acid. Acting on this suggestion, a procedure has been developed which gives reliable and brilliant results, in most cases little if any inferior to those obtained after Zenker fixation.

The several steps are:

1. Preserve in formaldehyd solution.
2. Prepare sections in the ordinary manner.
3. Mordant sections in 1 per cent. aqueous chromic acid from forty-eight to seventy-two hours.
4. Wash in water.
5. Stain in 0.5 per cent. aqueous acid fuchsin from five to twenty minutes.
6. Wash quickly in water.
7. Fix stain in 1 per cent. aqueous phosphomolybdic acid from one to five minutes.
8. Wash in water two minutes.
9. Counterstain in the anilin blue orange G mixture from five to twenty minutes; the sections should be somewhat overstained. The composition of this solution is:

Anilin blue (Grübler; water soluble)	0.5 gm.
Orange G (Grübler)	2.0 gm.
Oxalic acid	2.0 gm.
Water	100.0 c.c.

10. Dehydrate rapidly. The excess of anilin blue is removed largely in the lower alcohols; the degree of differentiation should be controlled by microscopic inspection.
11. Clear and mount.

The minimal period for mordanting in chromic acid is about forty-eight hours; shorter treatment usually gives feeble and unsatisfactory differentiation. The tissue may be mordanted in toto following fixation, but this is not recommended, as a somewhat longer application of chromic acid is required and the tissue becomes exceedingly hard and difficult to section. A 0.5 per cent. solution of acid fuchsin is preferable to the 0.1 per cent. in the original formula. Attempts to develop a similar modification adapted to alcoholic specimens have failed completely.

* From the Anatomical Laboratory, Northwestern University Medical School.

PROCEEDINGS OF THE ST. LOUIS SESSION

MINUTES OF THE SEVENTY-THIRD ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. LOUIS, MAY 22-26, 1922

(*Continued from page 1644*)

HOUSE OF DELEGATES

Second Meeting—Tuesday Morning, May 23

The House of Delegates met at 9:30 a. m., and was called to order by the Speaker.

Dr. J. C. Rockafellow, Iowa, Chairman, presented a supplementary report of the Committee on Credentials, stating that since the preliminary report was made, there had been sixty-two men admitted as delegates, whose credentials were found correct, making a total of 122 delegates. The committee recommended that these men be seated as delegates.

Dr. Thomas S. Cullen, Maryland, moved that the report be adopted. Seconded and carried.

Roll call being the next order, the Secretary stated that he had in his hands a record of more than a quorum present, and the roll would be made up from the attendance slips, if agreeable to the House.

The Speaker stated that if there was no objection, it would be so ordered. Hearing no objection, it was so ordered.

The minutes of the previous meeting were read and approved.

Periodic Medical Examinations

Dr. Victor C. Vaughan, District of Columbia, Chairman of the Council on Health and Public Instruction, presented the following for the Council, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, The need and value of periodic medical examination of persons supposedly in health are increasingly appreciated by the public, it is recommended by the Council on Health and Public Instruction that the House of Delegates authorize the Council to prepare suitable forms for such examinations and to publish them in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION; and that the county medical societies be encouraged to make public declaration that their members are prepared and ready to conduct such examinations, it being understood that the indigent only shall be examined free of charge and that all others are expected to pay for such examinations.

Report of Reference Committee on Legislation and Public Relations

Dr. J. H. J. Upham, Ohio, Chairman, presented the report of the Reference Committee on Legislation and Public Relations, as follows:

Your Reference Committee on Legislation and Public Relations begs to report in part on the matters referred to the committee, as follows:

The committee held an extended session, as per announcement, and numerous Fellows interested in referred matters were present.

CENTRAL BUREAU FOR CONSIDERATION OF LEGISLATION

The committee recognizes in the several reports of officers, and in the report of the Council on Health and Public Instruction, a consensus of opinion that a central bureau should be established for the consideration of all legislative matters pertaining to medicine or the practice of medicine, and of the public health, relieving the Council on Health and Public Instruction of these duties, which must be carried out in view of the extension of the functions of the Council in the matter of public education, and it is recommended:

1. That the trustees be memorialized to establish a bureau of this character, under whatever name, with such whole-time assistance as may be necessary, the duties of which shall pertain to legislative matters and medicolegal problems in which the whole medical profession may be interested, and which shall be to (*a*) coordinate the activities of the several constituent state associations, (*b*) ascertain and crystallize the opinions of the medical profession and the said constituent state associations, and (*c*) represent the American Medical Association.

In this connection, your committee desires to point to the desirability of the national organization reflecting the will of the great bulk of the medical profession, and that the bureau contemplated and these recommendations should act in matters of general policy, following instructions of the House of Delegates, or in emergencies following expression of opinion from the proper authorities of the several constituent state associations.

In this connection, further, it is recognized that the details of organization and operation of the contemplated bureau may not be decided upon at this time. The discussion of this problem in the report of the Council on Health and Public Instruction is referred to.

RESOLUTION ON NARCOTIC ADDICTION

2. The resolutions introduced by Dr. R. L. Green of Illinois have been recommended for adoption, after elimination of the last three paragraphs, the resolution now reading as follows:

Resolved, That the House of Delegates of the American Medical Association approve House resolutions number 258 (House of Representatives, Washington, D. C.), providing for a select committee of fifteen to inquire into the subject of narcotic conditions in the United States, the personnel of the Congressional committee to include all physicians who are now members of the House of Representatives.

RESOLUTION ON SHEPPARD-TOWNER LAW

3. The resolution introduced by Dr. Charles E. Humiston of Illinois, pertaining to the Sheppard-Towner law, is recommended for adoption, following the elimination of the second, fifth and last paragraphs, the resolution remaining as follows:

WHEREAS, The Sheppard-Towner law is a product of political expediency and is not in the interest of the public welfare, and

WHEREAS, The Sheppard-Towner law is an imported socialistic scheme unsuited to our form of government, and

WHEREAS, The Sheppard-Towner law unjustly and inequitably taxes the people of some of the states for the benefit of the people of other states for purposes which are lawful charges only upon the people of the said other states, and

WHEREAS, The Sheppard-Towner law does not become operative in the various states until the states themselves have passed enabling legislation, therefore be it

Resolved, That the American Medical Association disapprove the Sheppard-Towner law as a type of undesirable legislation which should be discouraged.

RESOLUTION ON VOLSTEAD ACT

4. The resolutions introduced by Dr. J. D. Brook of Michigan, pertaining to the conditions associated with the enforcement of the Volstead law, with slight modifications, the resolutions to read as follows, are recommended for adoption:

WHEREAS, The medical profession has been subjected to criticism and unfavorable comment because of present conditions associated with the enforcement of the Volstead law, and

WHEREAS, The results of a referendum conducted by THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, covering 54,000 physicians, indicates that 51 per cent. of physicians consider whisky "necessary" in the practice of medicine, and

WHEREAS, The dosage, method, frequency and duration of administration of this drug in any given case is a problem of scientific therapeutics and is not to be determined by legal or arbitrary dictum, and

WHEREAS, The experience of physicians, as reported in THE JOURNAL, indicates that the present method of control, limitation of quantity and frequency of administration, licensure and supply of a satisfactory product constitutes a serious interference with the practice of medicine by those physicians who are convinced of the value of alcohol in medical practice, therefore be it

Resolved, That the House of Delegates of the American Medical Association, in convention assembled, representing a membership of over 89,000 physicians, appeals to the Secretary of the Treasury and to the Congress of the United States for relief from the present unsatisfactory conditions, and recommends that provisions be made for supplying bonded whisky, *for medicinal use only*, at a fixed retail price to be established by the government.

The subject matter of the resolution introduced by Dr. Randolph Winslow of Maryland, petitioning the House of Delegates of the American Medical Association to use its best endeavors toward the repeal of the Volstead Act, so far as it applies to physicians and the practice of medicine, is believed by the committee to be adequately covered by the above recited resolutions.

RESOLUTION ON VOCATIONAL TRAINING OF DISABLED SOLDIERS

5. The committee recommends the adoption, as read, of the resolutions introduced by Dr. R. E. Schlueter of Missouri, protesting against the approval by the United States government of chiropractic as a proper vocational training for disabled ex-service men.

WHEREAS, The St. Louis Medical Society on May 16, 1922, by Memorial and Resolutions vigorously protested against the approval by the U. S. government of the School of Chiropractic as a means of vocational training for disabled ex-service men, and

WHEREAS, It appears that more than 250 ex-service men from all parts of the country, seventy of whom represented the Ninth District, composing the states of Missouri, Iowa, Kansas and Nebraska, are now enrolled in one Chiropractic School in this District with the sanction and approval of the U. S. government; therefore, be it

Resolved, That the House of Delegates of the American Medical Association, in annual session assembled representing over 89,000 legally qualified physicians, adequately trained in the arts and sciences (the only foundation for the recognition, control and prevention of disease), approves the sentiments expressed in the Memorial and Resolutions adopted by the St. Louis Medical Society, which have been submitted to this House, and hereby directs that the proper officers of the American Medical Association memorialize and petition the Federal government, particularly those officers charged with the responsibility for the rehabilitation of disabled ex-service men, and to take such action in the interest of the welfare of all the people, and also for the protection of those who honestly desire to administer to the sick, to the end that the ex-soldiers seeking vocational training, which will fit them for ministering to the sick and aiding in the recognition, control and prevention of disease, shall, at least, meet the requirements and shall receive such adequate training as is defined in the classification of medical schools of the American Medical Association, known as Class A, or acceptable medical schools—a standard which is approved by all right-thinking people moved by a desire for public welfare.

Respectfully submitted.

J. H. J. UPHAM, Chairman,
HOLMAN TAYLOR,
W. R. STEINER,
A. W. HORNBOGEN,
C. E. HUMISTON.

The report was considered section by section, and on several motions, duly seconded and carried, the separate sections were adopted.

On motion, duly seconded and carried, the report was adopted as a whole.

Report of Reference Committee on Hygiene and Public Health

Dr. John D. McLean, Pennsylvania, Chairman, presented the report of the Reference Committee on Hygiene and Public Health, as follows:

1. The committee recommends an official expression of appreciation and thanks to Mr. Harold Bayne for his investigation and report on and endorsement of vivisection for research; and to Miss Gertrude Lane for the publication of the same in the *Woman's Home Companion*. The committee recommends that the House of Delegates forward such expression of appreciation to Mr. Bayne and to Miss Lane.

Dr. McLean moved that this section of the report be adopted. Seconded and carried.

2. The committee urges the endorsement of the "Open Door" policy on the part of all institutions carrying on vivisection for research, i. e., free and open admission of properly endorsed and responsible officers of humane societies, for the purpose of observation of such research work.

Dr. McLean moved the adoption of this section of the report, which was seconded and carried.

3. The committee also endorses the movement for establishing a legislative and legal bureau.

Dr. McLean moved the adoption of this section of the report, which was seconded and carried.

J. D. MCLEAN, Chairman,
A. T. MCCORMACK,
J. A. PETTIT,
J. W. VANDERSLICE,
H. M. BROWN.

Dr. McLean moved that the report of the committee be adopted as a whole. Seconded and carried.

Report of Reference Committee on Reports of Officers

Dr. Rock Sleyster, Wisconsin, Chairman, presented the report of the Reference Committee on Reports of Officers, as follows:

To read a committee report which reviews something like 100 pages of officers' reports within a reasonable time limit requires a brevity which we trust will not be interpreted as a lack of appreciation of the splendid work represented. In this brief preamble we wish to express to each of these officers the appreciation of the House of Delegates for continued faithful performance of duty, and the efforts their reports represent. We shall consider only major subjects, and these without any elaboration or repetition of reports as published.

SECRETARY'S REPORT

(*a*) Your committee approves the practice of making hotel reservations for members of the House of Delegates.

(*b*) With regard to the Secretary's recommendation for a rewriting of the model constitution for state organizations, we recommend that this be referred to the Judicial Council with request that they report back to the next House of Delegates any changes they deem advisable.

(*c*) Your committee approves making the *Bulletin* the official journal of the House of Delegates, and recommends that it be edited by the Secretary of the Association and the Field Secretary acting in conjunction with the Speaker of the House, and that it be an open forum for the expression of opinion.

BOARD OF TRUSTEES

(*a*) Your committee approves the Spanish-American edition of THE JOURNAL.

(*b*) The section of the Board's report on the therapeutic use of alcohol is approved by your committee. No recommendations are made because such as are necessary will be reported by that committee of the House to which has been referred the several resolutions introduced pertaining to the subject.

(*c*) Your committee approves the section recommending a reduction in annual dues, and recommends its reference to the Committee on Constitution and By-Laws for adoption.

(*d*) Your committee approves the recommendations of the Board of Trustees that a survey be made of existing pay clinics, diagnostic clinics and group practice, to be conducted jointly by the Judicial Council and the Council on Medical Education and Hospitals. We recommend that their reports and recommendations be submitted to the next annual meeting of the House.

(*e*) We approve of the recommendation of the Board of Trustees relative to the Public Health activities of the American Red Cross, and their advice that the House of Delegates take appropriate action to convince those in authority that the public health activities of this organization are no longer necessary, and if continued are likely to promote community irresponsibility and helplessness in regard to its own welfare.

(*f*) Your committee further strongly recommends that the Board of Trustees take such action as will make this recommendation effective at the earliest possible moment.

(*g*) We approve legal defense indemnity in malpractice suits, and the Board of Trustees is requested to report a concrete plan to the next annual session.

(*h*) The remainder of the report is approved.

SPEAKER

(*a*) We approve the Speaker's recommendation that the Council on Health and Public Instruction be enlarged to ten members, not less than five of whom shall be active practitioners.

(*b*) We heartily approve his suggestion of enlarging the work of this Council, and recommend that the Board of Trustees be requested to appropriate for the Council on Health and Public Instruction a sufficient amount to permit the Council to carry on its specific duties and enlarge its activities in the field of public instruction.

(*c*) We cannot approve the recommendation for appointment of an advisory committee for the Council on Health and Public Instruction, as the committee would be under our recommendations enlarged to ten members.

(*d*) We approve the recommendation for a revision of the Principles of Ethics.

(*e*) Your committee approves the Speaker's recommendation for a survey of the nursing institutions, and recommends its reference to the Council on Medical Education and Hospitals. They, if they deem its advisable, may submit this to a subcommittee. We recommend that a report be received from this Council on the subject at the next annual session.

(*f*) Your committee can see no present need of regular semiannual sessions of the House of Delegates.

(*g*) We approve the recommendation of the establishment of a Legislative Bureau. This has been previously approved under the report of the Board of Trustees.

THE PRESIIDENT

Regarding the President's recommendation that the United States be divided into several districts, in view of the enormous scope and great importance of this question, your committee recommends that the House direct the appointment by the President of a special committee to consider this matter and to report to the House of Delegates its recommendations and plan for putting them into effect. It is recommended that this report be submitted to the next House of Delegates.

ROCK SLEYSTER, Chairman,
JAMES F. ROONEY,
L. H. MCKINNIE,
J. D. BROOK,
H. G. SIETSON.

The report was considered section by section, and on several motions, duly seconded and carried, the separate sections were adopted.

On motion, duly seconded and carried, the report was adopted as a whole.

Report of Special Committee to Draft Resolutions on Death of Dr. J. N. McCormack

Dr. E. Eliot Harris, New York, Chairman, presented the following report of the special committee to draft resolutions on the death of Dr. Joseph N. McCormack:

Dr. Joseph Nathaniel McCormack of Louisville, Ky., died at his home in that city, May 4, 1922. He had reached the age of 75 years. He was a man of ceaseless activity, and died in the harness. He was for many years devoted to the aims and purposes of the American Medical Association, and was an indefatigable worker. His most conspicuous constructive labors in the Association were as Chairman of the Committee on Reorganization, to which committee the medical profession of America is indebted for the present complete organization and achievements of the Association.

The work of organization carried him into every state, from the lakes to the gulf and from the Atlantic to the Pacific, and has no parallel in the perfection of its results.

Dr. McCormack formulated and established a model law for the protection of the health and welfare of the people of his native state of Kentucky. Moreover, as its executive, he secured the enforcement of these laws, and perfected an organization in every county. For forty years he gave his time and labor by day and by night to protecting the people from disease, and promoting the organization and efficiency of the medical profession. His vision was clear, his ability was great, his ideals were high, and he accomplished a full lifetime of achievement.

He died full of years and of honors. His work remains, and will go on in increasing circles in the years to come.

E. ELIOT HARRIS, Chairman,
HOLMAN TAYLOR,
D. E. SULLIVAN,
L. S. MCMURTRY.

After reading the report, Dr. Harris moved its adoption, which was seconded by several and adopted unanimously by rising vote.

Report of Reference Committee on Medical Education

Dr. Joseph Rilus Eastman, Indiana, Chairman, presented the report of the Reference Committee on Medical Education, as follows:

The Reference Committee on Medical Education heartily commends the comprehensive and throughgoing character of the report of the Council on Medical Education and Hospitals, and is in full accord with practically all of it.

With regard to the question as to whether more medical schools are needed, your committee believes that all existing medical schools of high grade should be encouraged to enlarge their facilities so as to care for larger numbers of medical students, not merely by increasing the number and size of buildings and by adding to physical equipment, but also by the addition of teachers in sufficient numbers, so that instruction could be furnished to the student body in small groups and that high standards may be maintained.

Your committee approves the suggestion that some of the smaller medical schools situated in large centers of population, and which can be brought up to higher standards, should be given financial aid as well as the larger schools.

Your committee further believes that those schools with a large population tributary to them, which have been obliged to limit their teaching to two preclinical years, should be enabled to establish the full four years of undergraduate instruction, wherever desirous to do so.

Your committee favors the establishment of new medical schools in a few states which are large enough to warrant it. Funds would be wisely expended in aiding such communities, if needed, to finance new medical schools.

It is further believed that the plan of some of the great foundations to require full-time clinical professorships is not wise and does not receive the support of the general profession. Your committee doubts the wisdom of making the adoption of such a plan a condition of endowment.

The tendency toward premature or over-rapid specialization is deplored. The practice of entering a special field without the proper preliminary general and special training should be checked. It is urged that medical schools so revise their curriculums as to provide a thorough training for the general practice of medicine, leaving courses in the specialties for the graduate medical school.

As a means to correct in part the faulty distribution of physicians, as between urban and rural districts, your committee subscribes to the plan of the Council for the establishment of hospitals in all communities having sufficient population in the surrounding territory to support them; these institutions are to be under the direct control of the medical profession. It, furthermore, regards the improvement of public highways as an additional aid in providing physicians for many districts which at present do not have them.

Your committee agrees with the views of the Council that the curriculums of medical schools should be reorganized so that the study of anatomy, pathology and the other fundamental sciences may be illustrative of clinical medicine and surgery, instead of treating those sciences as entirely separate from the latter. The committee believes, as does the Council, that the study of clinical cases should begin with the first year of medical training and be carried on concomitantly with the study of the fundamental sciences, so that each group will illustrate the other.

Your committee shares the view of the Council that there are certain obstacles in the development of a medical school as the medical department of a university. It has become clear that a medical school cannot be developed along the same comparatively narrow lines as the ordinary department of science in the university. Medicine has become one of the greatest functions of modern civilization, and has an intimate, every-day contact with every individual of the community, and the proper plan of organization must recognize this fact, and be sufficiently broad to maintain this relationship between the medical school, the medical profession and the community. The functions of medicine are performed by specially trained men and women—the medical profession. Any plan for the successful development of our medical schools must receive the active and enthusiastic cooperation of the medical profession. The medical school with its teachers and its associated agencies, hospitals, dispensaries, etc., cannot be developed simply as a university affair. It has definite and important functions to perform which are vital to the community, and a sound plan of organization must be one in which all of the agencies retain their normal place and perform their normal function. It is especially important that the teachers in the clinical departments retain their usual relationship to the medical profession.

Your committee endorses the recommendation of the Council that hospital internships be required by medical colleges and the state boards as an essential, respectively, for the degree of Doctor of Medicine and for the license to practice.

Your committee views with gratification the many advances which have been made in medical licensure, but at the same time wishes to call attention to the fact that in several states unduly large numbers of graduates of inferior medical schools and of pseudomedical cult colleges are being licensed.

In conclusion, your committee suggests that, inasmuch as the Council on Medical Education deals with all aspects of education, and inasmuch as the name of the Council is unduly long, the title be changed to read "The Council on Education and Hospitals of the American Medical Association."

Respectfully submitted.

JOSEPH RILUS EASTMAN, Chairman,
WILLIAM F. BACON,
F. B. LUND,
A. PARKER HITCHENS,
E. ELIOT HARRIS.

It was moved and seconded that the report be adopted. Carried.

Report of Reference Committee on Amendments to Constitution and By-Laws

DR. John Edward Lane, Connecticut, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

The following change in Chapter XVII of the By-Laws is suggested by the Board of Trustees:

To this chapter, add:

Provided, however, that the Board of Trustees, by unanimous vote, may change the amount of the annual dues; and provided, further, that these dues shall not be less than $5 nor more than $6 per annum, and that any such change shall be announced in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION on or before November 1 of the year preceding that in which the change is to become effective.

In order to simplify the matter, your committee suggests the following substitute:

The annual Fellowship dues and the subscription price of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION shall be fixed by the Board of Trustees, and the same shall be payable in advance, on the first day of January of each year, provided that the annual dues shall not exceed $6, and provided that the amount of the same shall be announced in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION not later than November 1 of each year.

After reading the substitute amendment, Dr. Lane moved its adoption, which was seconded by Dr. H. B. Beirne, Illinois, and carried.

Dr. Lane read the following change in Chapter IX, Section 1, of the By-Laws, suggested by the Judicial Council:

This power shall extend to and include (1) all questions involving Fellowship in the Scientific Assembly or the obligations, rights and privileges of Fellowship.

Dr. Lane moved the adoption of this amendment, which was seconded by Dr. Randolph Winslow, Maryland, and carried.

Dr. Lane read the following change in Chapter IX, Section 1, of the By-Laws, which is also suggested by the Judicial Council:

Insert immediately preceding the final paragraph:

The Judicial Council shall have jurisdiction on all questions of ethics and in the interpretation of the laws of the organization.

Dr. Lane moved the adoption of this amendment, which was seconded by Dr. J. W. Bell, Minnesota, and carried.

Dr. Lane read the following change in Chapter IX, Section 1, of the By-Laws, as suggested by Dr. Chalmers:

Section 1, Line 3, by inserting after the word "final," the words "except that appeal may be made from their decision to the House of Delegates in which case the decision of this body shall be final."

And to Chapter X, add a new section, 5, as follows:

All activities and actions of standing and special committees and of all the various Councils of the Association shall be subject to the rules, regulations and orders of the House of Delegates.

Dr. Lane stated that the committee did not concur in the suggestion of Dr. Chalmers, and therefore moved that the proposed amendment be not adopted.

The motion was seconded by several delegates, and after discussion by Drs. Chalmers and M. L. Harris, the motion was put to a vote and declared carried.

Dr. Lane read the following:

The following change in Article 5, Section 2, of the Constitution is recommended by the Judicial Council as a substitute for the amendment at the Boston session:

The Trustees, the ex-President of the Association and the members of the several Councils shall be ex-officio members of the House of Delegates without the right to vote, provided that members of the Councils who are also elected delegates may exercise all of the rights of elected delegates.

Dr. Lane stated that the committee approves of the suggestion of the Judicial Council, and he moved the adoption of the substitute submitted. Seconded and carried.

Dr. Lane said that the following change in Article 5, Sections 2 and 3, is submitted by Dr. Mongan:

SEC. 2.—The House of Delegates is composed of delegates elected by the constituent associations. The Trustees shall be ex-officio members of the House of Delegates, but without the right to vote.

SEC. 3.—The total voting membership of this House of Delegates shall not be in excess of 150, which shall be apportioned among the constituent associations in proportion to their actual active membership as hereinafter provided in the By-Laws.

(To lie over until next year.)

There was also an amendment introduced by Dr. George F. Keiper, Indiana, and offered as a substitute for the amendment to Section 2, Article 5, of the Constitution, but no report is made on this proposed substitute, because the House had already taken action amending this section.

Dr. Lane stated that the following amendment to Article 5, Sections 2 and 3, of the Constitution, is submitted by Dr. Upham. They are interrelated and dependent one on the other. Since they include an amendment to Section 3, they must lie over until next year:

SEC. 2.—COMPOSITION.—The House of Delegates is composed of delegates elected by the constituent associations and of delegates from the Medical Departments of the Army and Navy, and the Public Health Service, appointed by the Surgeon General of the respective departments, and of section delegates elected by the sections of the scientific assembly. The section delegates shall have the privilege of the floor, but only the right to vote on matters directly affecting the activities of the sections. The trustees shall be ex-officio members of the House of Delegates, but without the right to vote.

SEC. 3. The total unrestricted voting membership of the House of Delegates shall not exceed 150. The Medical Departments of the Army and the Navy, and the United States Public Health Service shall each be entitled to one delegate, and the remainder shall be apportioned among the constituent associations in proportion to their actual membership as hereinafter provided in the By-Laws. The scientific sections shall each be entitled to one section delegate; should the right of the section delegates to vote be challenged on a question before the House, decision shall be made by a ruling of the Speaker, subject to the approval of the House.

The following amendment to Article 7 of the Constitution is submitted by Dr. Mongan:

That Article 7, of the Constitution, be amended by striking out all words after the word "Association." (To lie over until next year).

The following change to Chapter I, Section 2, of the By-Laws, is suggested by Dr. Mongan:

SEC. 2.—TERM.—Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one half, as near as may be, shall be elected each year.

Dr. Lane moved for the committee that this section be not adopted. Seconded by Dr. Arthur T. McCormack, Kentucky, and carried.

The following change to Chapter I, Section 4, of the By-Laws is submitted by Dr. Mongan:

REGULATION OF DELEGATES.—Each delegate representing a constituent association, before being seated, shall deposit with the Committee on Credentials a certificate signed by the Secretary and under the seal of the constituent association, stating that he had been regularly elected by that constituent association.

Dr. Lane moved that this section be not adopted, which was seconded and carried.

The following amendment to Chapter VI, Section 1, of the By-Laws was submitted by Dr. R. L. Green:

Amend Section 1, of Chapter VI, by inserting after the word "JOURNAL" in the fourteenth line, the following words: "Whose duty shall be restricted to the management of THE JOURNAL."

Dr. Lane moved for the committee that this amendment be not adopted. Seconded by Dr. Thomas S. Cullen, Maryland, and carried.

The following amendment to Chapter XI, Section 3, of the By-Laws is submitted by Dr. Van Zwalenburg:

Amend by inserting after the end of the first sentence:

Provided, however, that the county society in which he seeks membership shall have the same option to refuse him membership that it would have had if he had not previously been a member of a constituent society.

Your committee suggests the following substitute for the foregoing, to be inserted at the same point:

Provided that no evidence which would otherwise disqualify him for membership, arise.

Dr. Lane moved the adoption of the substitute, which was seconded and carried.

The following amendment to Article I, Chapter II, Section 4, of the Principles of Medical Ethics, is suggested by the Judicial Council:

Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. That does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession, and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and specially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not per se improper. As implied, it is unprofessional to disregard local customs and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promote radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

Dr. Lane moved the adoption of this amendment, which was seconded by Dr. J. W. Van Derslice, Illinois, and carried.

The following supplement to the Principles of Ethics of the American Medical Association is submitted by Dr. McClellan:

THE RELATION OF THE PUBLIC TO THE PROFESSION

SECTION 1.—Any individual, or any institution, private or public, or corporation, or association, or group of individuals under whatever name, which shall solicit patients by circulars or advertisements to the general public, shall be considered to act contrary to the best interests of the profession and the public, and shall be deemed unworthy of the approval and support of the regular medical profession.

SEC. 2.—Any individual, or any institution, private or public, or corporation or association, or group of individuals under whatever name, which has for its purpose to, or which actually does, unfairly advertise a small group of physicians to the detriment of the whole profession, shall be deemed unworthy of the approval and support of the regular medical profession.

SEC. 3.—Any individual, or any institution, private or public, or corporation, or association, or group of individuals under whatever name, which shall solicit or collect funds under the guise of charity and then offer free medical treatment to persons able to pay for such medical services and thus pauperize such recipients of charity, and rob them of their self-reliance, shall be deemed unworthy of the approval and support of the regular medical profession.

Dr. Lane, for the reference committee, moved that these sections be not adopted. Seconded and carried.

J. E. LANE, Chairman,
B. L. BRYANT,
J. H. HELMES,
J. A. WITHERSPOON.

Dr. Lane moved the adoption of the report as a whole. Seconded and carried.

New Business

Under new business, Dr. J. H. J. Upham, Ohio, called attention to the reference made by the Speaker, in his address yesterday morning, regarding the death of Dr. Dwight H. Murray, Syracuse, N. Y., a former speaker of the House of Delegates, and moved that the Speaker appoint a Memorial Committee to draw up appropriate resolutions in regard to the death of Dr. Murray. Seconded and carried.

The Speaker said he would appoint this committee later.

Dr. Claude A. Thompson, Oklahoma, presented the following preamble and resolution, and moved their adoption, which motion was seconded by Dr. Thomas C. Chalmers, New York:

WHEREAS, Through many years of untiring and intelligent endeavor and work as organizer and reorganizer of the American Medical Profession, and as one of the profession's greatest exponents to the laity of the proper viewpoint of all matters medical, Dr. Joseph N. McCormack of Kentucky, now deceased, has for all time endeared himself to American physicians; therefore, be it

Resolved, That the President of the American Medical Association be and hereby is requested to appoint a committee, himself being chairman, to devise and prepare a suitable memorial tablet in some metal, which tablet shall be placed in a prominent position in the headquarters of the American Medical Association in Chicago.

The resolution was referred to the Board of Trustees.

Dr. James F. Rooney, New York, offered the following amendment to Chapter III, Section 2, of the By-Laws to be changed to read:

Special sessions of the House of Delegates shall be called by the Speaker on written request of twenty-five or more delegates, representing one third or more of the constituent associations or the majority of the Board of Trustees.

This amendment was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Dr. Walter L. Bierring, Iowa, delegate from the Section on the Practice of Medicine, presented the following, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, The Section of Medical Licensure of the Congress of Medical Education, Licensure, Public Health and Hospitals, meeting in Chicago, March 6 to 10, 1922, adopted a resolution recommending the establishment of a national commission representing the Association of American Universities, National Educational Association, the Carnegie Foundation for the Advancement of Teaching, Federation of State Medical Boards, and the American Medical Association, for the purpose of collecting and disseminating all reliable data and information in regard to the methods of the various systems of drugless therapy; therefore, be it

Resolved, That the House of Delegates of the American Medical Association express its approval of the above plan and designate two of its members as representatives of the American Medical Association at a conference to be called soon for the organization of the above named national committee.

Dr. Eugene Cary, Texas, presented the following communication, which was referred to the Reference Committee on Miscellaneous Business:

The Women's Auxiliary of the State Medical Association of Texas respectfully requests the approval of the American Medical Association of a movement to organize a Women's Auxiliary to the American Medical Association. The object of this Auxiliary shall be: To extend the aims of the medical profession through the wives of the doctors to the various women's organizations, which look to the advancement in health and education; also to assist in entertainment at all Medical Conventions, and to promote acquaintanceship among doctors' families that closer professional fellowship may exist.

MRS. S. C. RED, President,
MRS. EDWARD CARY, Ex-President,
MRS. M. L. GRAVES, President Elect,
MRS. J. C. MCREYNOLDS, First Vice President,
MRS. S. C. SCOTT, Second Vice President,
MRS. JOE GILBERT, Third Vice President,
MRS. N. R. DUDGEON, Secretary,
MRS. N. L. D. KIRKHAM, Corresponding Secretary,
MRS. O. N. JUDKINS, Treasurer,
MRS. JAMES ANDERSON, Publicity Secretary.

The Speaker appointed Dr. Thomas H. Halsted, Syracuse, N. Y.; Dr. Sidney K. Simon, New Orleans, and Dr. William Gerry Morgan, Washington, D. C., as a committee to draft resolutions on the death of Dr. Dwight H. Murray.

Dr. John W. Bell, Minnesota, presented the following preamble and resolution at the unanimous request of the Minnesota State Medical Association:

WHEREAS, There exists an acute need of a lay or public health journal, authoritative in character—a connecting link between the profession and the public, dealing with preventive medicine, hygiene, sanitation and communicable diseases, in brief, to enlighten the public as to what scientific medicine is doing, also its efforts to protect the public against quacks, charlatans and ill-advised medical laws; therefore, be it

Resolved, That the Board of Trustees be urged to take immediate steps to develop an efficient plan of lay publicity.

This resolution was referred to the Board of Trustees.

The Secretary stated that the President-Elect, in his address, proposed that the House of Delegates arrange for some form of Fellowship which might be held by physicians engaged in missionary work in foreign fields, and suggested that this general subject be referred to the Reference Committee on Amendments to the Constitution and By-Laws, and that the committee report its recommendations back to the House, for action.

Accordingly, it was moved that this be done. Seconded and carried.

Dr. R. E. Schlueter, Missouri, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The United States Public Health Service activities have been materially increased by various Acts of Congress, owing to the care and treatment of the thousands of ex-service men and women of the World War; and by the increased requirements in rural sanitation; and by the increased requirements in research laboratory work; and by the increased requirements necessary for efficient immigration inspection; therefore, be it

Resolved, That the House of Delegates of the American Medical Association, in annual session assembled, endorse and hereby direct that the proper officers of the American Medical Association take in hand immediately, memorialize, and petition the federal government, particularly the Finance Committee of the Senate, the Interstate and Foreign Commerce Committee of the House, the President, the Secretary of the Treasury, the director of the Veterans' Bureau, and others who can be instrumental, to secure the enactment of Senate Bill No. 2764 introduced by Mr. Watson of Indiana, House Bill No. 9291 introduced by Mr. Dyer of Missouri, and House Bill No. 9775 introduced by Mr. Newton of Minnesota (known as the Watson-Dyer-Newton enactment); all to reorganize and promote the efficiency of the United States Public Health Service, in that they provide for an increase of personnel of that Service by 550 regular commissions; fifty of these to be dental officers, fifty sanitary engineers, and 450 medical officers, to be chosen from men who hold reserve commissions in the U. S. Public Health Service and who have had not less than three years' service in the Army, Navy or Public Health Service, a part of which time must have been served between April 6, 1917, and Nov. 11, 1918. These bills are personnel bills, and do not in any way change the duties of the United States Public Health Service, and do not require any increased appropriation, but simply supply that corps with the needed medical, dental and scientific personnel.

As there was no further business to come before the meeting at this time, the House took a recess until 2 p. m., Thursday, May 25.

Third Meeting—Thursday Afternoon, May 25

The House of Delegates reconvened at 2 p. m., and was called to order by the Speaker.

Supplementary Report of the Committee on Credentials

Dr. J. C. Rockafellow, Iowa, Chairman, stated that the Committee on Credentials had accepted the credentials of 138 delegates who were entitled to seats in the House of Delegates.

Dr. Horace M. Brown, Wisconsin, moved that the report be accepted. Seconded and carried.

The Secretary called the roll, and 126 responded.

The next order of business being the reading and adoption of the minutes of the previous meeting, Dr. Arthur T. McCormack, Kentucky, moved that the reading of the minutes be dispensed with. Seconded and carried.

Election of Officers

The election of officers being the next order, the Speaker reminded the delegates that nominating speeches were limited to two minutes, and he said that he was now ready to entertain nominations for President.

Dr. J. Curtis Lyter, Missouri, nominated Dr. Jabez N. Jackson, Missouri, for President.

Dr. C. Van Zwalenburg, California, nominated Dr. Ray Lyman Wilbur, California.

The nomination of Dr. Jackson was seconded by Dr. Donald Macrae, Iowa; Dr. Holman Taylor, Texas, and Dr. Joseph Rilus Eastman, Indiana.

The nomination of Dr. Wilbur was supported by Dr. Edward B. Heckel, Pennsylvania; Dr. Walter L. Bierring, Iowa, and Dr. Joseph A. Pettit, Oregon.

Dr. Arthur T. McCormack, Kentucky, moved that nominations be closed. Seconded and carried.

The Speaker appointed as tellers Drs. Arthur J. Bedell, New York; George F. Keiper, Indiana, and R. L. Green, Illinois. There were 123 votes cast, of which Dr. Wilbur received 69 and Dr. Jackson 54. As Dr. Wilbur received a majority of the votes cast, he was declared duly elected President.

Nominations for Vice President being in order, Dr. Arthur T. McCormack, Kentucky, nominated Dr. Willard Bartlett, Missouri. The nomination was seconded by Dr. R. E. Schlueter, Missouri.

Dr. W. K. Wilson, Michigan, moved that nominations be closed. Seconded and carried.

A rising vote was taken and Dr. Bartlett was declared unanimously elected Vice President.

Nominations for Secretary being in order, Dr. James F. Rooney, New York, nominated Dr. Alexander R. Craig, Illinois. The nomination was supported by Dr. Edward B. Heckel, Pennsylvania, and by Dr. Henry P. Linsz, West Virginia.

Dr. Heckel moved that nominations be closed. Seconded and carried.

A rising vote was taken and Dr. Craig was declared unanimously elected Secretary.

Dr. Frank Billings, Illinois, speaking for the Board of Trustees, placed in nomination for Treasurer for the approval of the House, Dr. Austin A. Hayden, Illinois.

Dr. J. W. Van Derslice, Illinois, moved that nominations be closed. Seconded and carried.

A rising vote was taken, and the nomination of Dr. Hayden was confirmed and he was declared elected.

The election of a Speaker being the next order of business, President de Schweinitz was called to the Chair.

Dr. W. J. Wilson, Michigan, nominated for Speaker of the House of Delegates Dr. Frederick C. Warnshuis, Michigan. The nomination was seconded by Dr. E. Eliot Harris, New York; Dr. Ben R. McClellan, Ohio, and by Dr. Thomas C. Chalmers, New York.

It was moved that nominations be closed. Seconded and carried.

Dr. James F. Rooney, New York, moved that the Speaker be elected by a rising vote. Seconded and carried.

A rising vote was taken, which resulted in the unanimous election of Dr. Warnshuis as Speaker.

Dr. Horace M. Brown, Wisconsin, nominated for Vice Speaker Dr. Rock Sleyster, Wisconsin. The nomination was seconded by Dr. E. Eliot Harris, New York; Dr. Edward B. Heckel, Pennsylvania; Dr. A. W. Hornbogen, Michigan; Dr. Edgar A. Hines, South Carolina; Dr. John Edward Lane, Connecticut.

Dr. Victor C. Vecki, California, moved that a rising vote be taken on the election of Dr. Sleyster. Seconded and carried.

A rising vote was taken, which resulted in the unanimous election of Dr. Sleyster.

The following Trustees were elected for a term of three years: Dr. A. R. Mitchell, Nebraska; Dr. D. Chester Brown, Connecticut, and Dr. Oscar Dowling, Louisiana.

The Speaker stated that the next in order was nominations for standing committees by the President and their confirmation by the House of Delegates.

President de Schweinitz placed in nomination as a member of the Judicial Council Dr. J. H. J. Upham, Ohio; on the Council on Health and Public Instruction, Dr. Walter B. Cannon, Massachusetts; on the Council on Medical Education and Hospitals, Dr. William Pepper, Pennsylvania; on the Council on Scientific Assembly, Dr. E. S. Judd, Minnesota.

Dr. J. W. Van Derslice, Illinois, moved that the nominations made by the President be confirmed. Seconded and carried.

The names of the applicants approved by the several sections for election as Associate Fellows were presented by the Secretary, and on motion, duly seconded and carried, the Secretary was authorized to cast the ballot of the House of Delegates for the election of those applicants against whom no objection is raised by the executive officers of the constituent associations within whose jurisdiction the applicants reside.

The Secretary then submitted the names of those who had been nominated by the several constituent associations for Affiliate Fellowship.

On motion, duly seconded and carried, the Secretary was authorized to cast the ballot of the House.

Place of 1923 Annual Session

Dr. Frank Billings, Illinois, stated that the Board of Trustees had received invitations from five cities in which to hold the annual session of the Association in 1923, namely, San Francisco, Atlantic City, Washington, New York and Chicago.

After considering all of these places, the Board of Trustees recommended that the House of Delegates make a choice between Atlantic City and San Francisco. Washington, D. C., was also placed in nomination from the floor. A ballot was

taken which resulted in the selection of San Francisco as the next place of meeting. Dr. Joseph A. Pettit, Oregon, moved that the vote for San Francisco be made unanimous. Seconded and carried.

Resolutions of Thanks

Dr. Fred B. Lund, Massachusetts, moved that a vote of thanks be extended to the medical profession of St. Louis, their wives, to the Local Committee of Arrangements for their delightful entertainments, the press, and to all others who had in any way contributed toward making the meeting a success both socially and scientifically. Seconded by Dr. James F. Rooney, New York, and unanimously carried.

Dr. Lewis S. McMurtry, Kentucky, moved that a rising vote of thanks be extended to the Speaker for the tactful, courteous and efficient manner in which he had discharged the duties of his office. Seconded and carried unanimously.

Dr. Horace M. Brown, Wisconsin, moved that the House of Delegates authorize the Board of Trustees to name the date for the next meeting of the Association, to be held in San Francisco in 1923. Seconded and carried.

Report of Reference Committee on Sections and Section Work

Dr. John W. Bell, Minnesota, Chairman, presented the report of the Reference Committee on Sections and Section Work, as follows:

Your committee has reviewed with pleasure the short, but important, report of the Council on Scientific Assembly.

The arrangement and dovetailing of the many scientific subjects to be discussed at the scientific sessions is not only important, but also very difficult.

We fully agree with the entire report and feel that the Council on Scientific Assembly is wise in advising the Association to move slowly in the establishment of new sections. They have solved a difficult problem by establishing a "Section on Miscellaneous Topics." When given subjects presented in this section grow too large for it, then it will be time enough to consider the establishment of a new Section for a given subject or growing subjects.

Your committee favors the change of the title "The Section on Preventive Medicine and Public Health" to "The Section on Preventive and Industrial Medicine and Public Health," and in order to secure prompt action has already referred the matter to the Reference Committee on Amendments to the Constitution and By-Laws, asking it to report its recommendations at this meeting.

Your committee moves that the report of the Council on Scientific Assembly be accepted in toto.

THOMAS S. CULLEN, Chairman.
HENRY P. LINSZ,
JOHN W. BELL.

After reading the report, Dr. Bell moved its adoption, which motion was duly seconded and carried.

Supplementary Report of Reference Committee on Legislation and Public Relations

Dr. J. H. J. Upham, Ohio, Chairman, presented the following report of the Reference Committee on Legislation and Public Relations:

Your committee begs to submit the following supplementary report on the several subjects heretofore referred:

1. The resolution introduced by Dr. R. E. Schlueter of Missouri, approving Senate Bill No. 2764 and House Bill No. 9291, and House Bill No. 9775, pending in Congress and pertaining to the United States Public Health Service, is recommended for adoption as read.

2. The resolutions introduced by Dr. William Gerry Morgan of the District of Columbia, Dr. R. L. Green of Illinois, Dr. C. D. Selby of Ohio, Dr. Randolph Winslow of Maryland, and Dr. James F. Rooney of New York, all pertaining to "state medicine," have been considered separately and collectively, and the committee recommends that the resolution by Dr. Rooney, modified to read as follows, be passed by this House of Delegates as the best solution of the problem under consideration, the other resolutions not to be passed:

The American Medical Association hereby declares its opposition to all forms of "state medicine," because of the ultimate harm that would come thereby to the public weal through such form of medical practice.

"State medicine" is hereby defined for the purpose of this resolution to be any form of medical treatment, provided, conducted, controlled or subsidized by the federal or any state government, or municipality, excepting such service as is provided by the Army, Navy or Public Health Service, and that which is necessary for the control of communicable diseases, the treatment of mental disease, the treatment of the indigent sick, and such other services as may be approved by and administered under the direction of or by a local county medical society, and are not disapproved by the state medical society of which it is a component part.

Respectfully submitteed.

J. H. J. UPHAM, Chairman.
HOLMAN TAYLOR,
W. R. STEINER,
A. W. HORNBOGEN,
C. E. HUMISTON.

The report was considered section by section, and on motion, duly seconded and carried, each separate section was adopted.

Dr. Upham then moved the adoption of the report as a whole, which motion was duly seconded and carried.

New Business

Dr. Horace M. Brown, Wisconsin, a member of the Reference Committee on Hygiene and Public Health, in the absence of its chairman, presented the report of the Committee, and asked unanimous consent, which was granted, to introduce as new business the following preamble and resolutions which were brought before and approved by the Committee:

RETIREMENT, DISABLED RESERVE OFFICERS

WHEREAS, The disabled emergency officers of the Army are not receiving the same treatment as the other five classes of disabled officers who served during the World War, in that they are denied the privileges of retirement for physical disability as allowed all other disabled officers, regular and emergency alike; and

WHEREAS, It is obviously unjust and discriminatory to deny one class of disabled officers the rights and privileges accorded all other classes; and

WHEREAS, There is pending in Congress now legislation to correct this discrimination; therefore, be it

Resolved, That the House of Delegates of the American Medical Association be requested to urge upon the House of Representatives the passage of the Bursum bill at the earliest possible date, to the end that the disabled emergency officers may receive the treatment to which they are entitled.

After reading the resolution, Dr. Brown moved its adoption.

Dr. James F. Rooney, New York, in seconding the motion, moved that the resolution be referred to the Reference Committee on Legislation and Public Relations, that the Committee be discharged, and the House proceed to an immediate vote. Seconded and carried.

The motion to adopt the resolution was voted on and declared carried.

Dr. Brown, in reporting further for the Reference Committee on Hygiene and Public Health, stated that a resolution was referred to the Committee relating to the retransfer of officers of the Public Health Service from the Veterans' Bureau Service back to the Public Health Service. This resolution was referred to the Reference Committee on Hygiene and Public Health, but for some reason went to another committee, which committee acted on it without getting the needed information.

The resolution is to the effect that the medical officers of the Public Health Service, who have been transferred to the control of the Veterans' Bureau, should be returned to the Public Health Service not only for the protection of the veterans, but also for themselves and for the protection of the medical profession against the incoming horde of chiropractors, naprapaths and other cults. After due consideration of this matter, the committee recommends that the resolution be adopted by the House of Delegates.

Accordingly, Dr. Brown so moved, which motion was duly seconded and carried.

With reference to the resolution offered by Dr. Walter L. Bierring, Iowa, the committee recommends its adoption. Seconded.

Dr. Charles E. Humiston, Illinois, moved to amend that the number of representatives from the American Medical Association be increased from two to five.

The amendment was seconded, accepted, and the original motion as amended was put and carried.

Regarding the resolution on periodic examinations, which was referred to the committee, the committee endorses the resolution and moves its adoption. Seconded and carried.

Dr. Brown moved the adoption of the report of the committee as a whole. Seconded and carried.

Supplementary Report of Reference Committee on Amendments to the Constitution and By-Laws

Dr. John Edward Lane, Connecticut, Chairman, presented the report of the Reference Committee on Amendments to the Constitution and By-Laws, as follows:

Your Reference Committee on Amendments to the Constitution and By-Laws submits the following supplementary report:

Dr. de Schweinitz, in his Presidential address to the House of Delegates, suggested that provision be made for according Associate Fellowship to American physicians engaged in missionary and similar work, located in foreign countries. To meet this proposal your committee recommends the following amendment to the By-Laws:

Interpolate after the fifth line of Section 6, Chapter XI, following the words "the United States," the phrase

American physicians located in foreign countries and engaged in medical missionary and similar educational and philanthropic labors.

so that the Section, as amended, shall read:

ASSOCIATE FELLOWS.—The following may be elected in accordance with Section 5, Chapter IV, to Associate Fellowship: Physicians who are members of the chartered national medical societies of foreign countries adjacent to the United States; American physicians located in foreign countries and engaged in medical missionary and similar educational and philanthropic labors; dentists holding the degree of D.D.S.

continuing to the end of the section as it is now worded.

The committee further recommends that Section 5, Chapter IV shall be amended by adding after the words "foreign physicians," in the second line of the same, the words

and from American physicians engaged in missionary and similar labors in foreign countries.

so that the section as amended, shall read:

ASSOCIATE FELLOWS.—Applications for Associate Fellowship from foreign physicians and from American physicians engaged in missionary and similar labors in foreign countries, must be approved by the Judicial Council;

and so on to the end of the section as at present worded.

The Reference Committee recommends the adoption of the amendment to Section 2, Chapter III, of the By-Laws presented by Dr. James F. Rooney, New York, at the meeting of the House of Delegates held on Tuesday, last, whereby this section shall read:

SPECIAL SESSIONS.—Special sessions of the House of Delegates shall be called by the Speaker, on written request of twenty-five or more delegates representing one third or more of the constituent associations; or on request of a majority of the Board of Trustees. When a special session is thus called,

and so on, to the end of the section as at present worded.

The recommendation of the Council of Scientific Assembly and the Reference Committee on Sections and Section Work, changing the name of the Section on Preventive Medicine and Public Health to that of "Section on Preventive and Industrial Medicine and Public Health" Chapter 14, Section I (12) is approved.

Your committee recommends that this Chapter 14, Section I (12) be changed to read.

12.—Preventive and Industrial Medicine and Public Health.

J. E. LANE,
B. L. BRYANT,
J. H. HELMES,
J. A. WITHERSPOON.

The report was considered section by section, and on several motions, which were duly seconded and carried, the separate sections were adopted.

Dr. Lane then moved the adoption of the report as a whole. Seconded and carried.

Dr. Lane moved that the House of Delegates direct and empower the Secretary to edit, and codify, the amendments adopted at this session and coordinate them into the Constitution and By-Laws by making such changes in wording as shall in no way modify the sense of the amendments which have been adopted.

The Speaker said that if there was no objection, he would interpret the motion of Dr. Lane as the wish of the House.

Report of the Reference Committee on Reports of Officers

Dr. Rock Sleyster, Wisconsin, Chairman, presented the report of the Reference Committee on Reports of Officers, as follows:

Your Reference Committee on Reports of Officers, in concluding its report of Tuesday, merely wishes to approve progress by the Board of Trustees as reported in the matter of a lay medical journal. We are assured by the Board that this much needed publication should be a fact before the convening of the 1923 House.

We also wish to endorse unqualifiedly the Gorgas memorial, a tribute to a past President of this Association, and one of its most distinguished and loved members.

We wish to express to President de Schweinitz the appreciation of the House for his masterly address, the recommendations contained therein having been referred to other Reference Committees.

Respectfully submitted.

After reading the report, Dr. Sleyster moved its adoption, which motion was duly seconded and carried.

Report of Reference Committee on Miscellaneous Business

Dr. Southgate Leigh, Virginia, Chairman, presented the report of the Reference Committee on Miscellaneous Business, as follows:

In considering the proposition submitted by Dr. Edward Cary, Texas, at a previous meeting of the House, regarding the Women's Auxiliary of the State Medical Association of Texas, Dr. Cary appeared before the committee and explained the details of the suggested organization. He stated also that in Texas the Women's Auxiliary to the State Association had been of material aid to the profession.

The present plan does not appear to involve any financial or other obligation on the part of this Association.

The ladies are today organizing an auxiliary to the American Medical Association.

All that they are asking is that the House of Delegates approve the movement.

Your committee would suggest that such approval be given.

Dr. Leigh moved the adoption of this part of the report. Seconded and carried.

The committee recommends that the Council on Medical Education be requested to take under advisement the propriety of appointing a subcommittee on Medical Nomenclature, and that the Council be authorized, at its discretion, to appoint such a committee.

Dr. Leigh moved the adoption of this part of the report. Seconded and carried.

Dr. Leigh then moved the adoption of the report as a whole. Seconded and carried.

Memorial on Death of Dr. Dwight H. Murray

Dr. Thomas H. Halstead, New York, presented the following report in regard to the death of Dr. Murray:

Dr. Dwight Henderson Murray, Speaker of the House of Delegates of the American Medical Association, died at his home in Syracuse, N. Y., on Oct. 21, 1921. The day before his death, while in perfect health, he tripped and fell a few steps in his office building, and while being helped up by the janitor, remarked that he was not hurt much, but would probably feel the results the next day. Twenty-four hours later, without warning, and after getting out of his automobile in his garage, he went into collapse and died in a few minutes. The necropsy showed a rupture of the aorta beginning at the inner coat and extending downward until breaking through the external coat at the time of collapse. There was no evidence of disease, the injury causing the rupture and death. Dr. Murray was a member of the House of Delegates continuously since 1910, and Vice Speaker from 1916 to 1920, and was elected Speaker at the Boston meeting a year ago. He was also vice speaker of the House of Delegates of the Medical Society of the State of New York. He was at various times president of his local medical societies, and was the first chairman of the Section on Gastro-Enterology and Proctology of the American Medical Association. He was a former president of the American Proctological Association, which society he had much to do in organizing. He was clinical professor of proctology in the Medical Department of Syracuse University, from which college he graduated in medicine. At the time of his death he was 60 years old, and is survived by his wife, a son and a daughter. Dr. Murray was from the beginning of his medical career always interested actively both in the scientific side of medicine, as well as the various problems and policies that affect the economic side of medical men and their various organizations. He was not only a physician of both local and national reputation, but he was a citizen who took an active and intelligent interest in public affairs and always made himself felt.

He was a strong man of genial personality and eminent worth, a man of sterling integrity and high ideals. He will be greatly missed for years to come by his many medical associates and friends.

THOMAS H. HALSTED,
WILLIAM GERRY MORGAN,
SIDNEY K. SIMON.

Dr. Halstead moved the adoption of the memorial by a rising vote, which was seconded by Dr. Horace M. Brown, Wisconsin, and adopted and carried unanimously.

The Speaker instructed the Secretary to send a copy of the memorial to Mrs. Murray.

President deSchweinitz appointed the following special committee to investigate and report on dividing the country into districts: Dr. L. H. McKinnis, Colorado; Dr. Rock Sleyster, Wisconsin, and Dr. John E. Lane, Connecticut.

Dr. B. R. Shurly, Michigan, delegate from the Section on Largyngology, Otology and Rhinology, asked unanimous consent, which was granted, to present the following resolution:

WHEREAS, The Veterans' Bureau has ignored the contracts of hospitals, conducted lay inspections of same, placed incompetent lay district managers over competent medical men, who have interfered with the medical business and the medical care and proper examination of veterans for compensation, accepted the dictation of the American Legion and Welfare officers in the appointment and control of the medical officers for duty, established American Legion Hospitals and employed medical men without due consideration of their professional or executive capacity or proper remuneration; be it

Resolved, That a committee of three be appointed by the President of the American Medical Association to consult with the Veterans' Bureau and establish justice, promote efficiency, conserve wastage of the people's money, protect the ex-soldier and ultimately aid in the establishment of scientific government hospitals and abolish political hospitals conducted by the American Legion.

Seconded.

The resolution was discussed by Major A. Parker Hitchens, U. S. Army, and at the close of his remarks Major Hitchens moved that the resolution be laid on the table. Seconded and carried.

Other Business

Dr. C. E. Morgan, Massachusetts, rose to a question of information, which he said he would like the Speaker to furnish in due time, not necessarily now. It is this: Is there any legal conflict between Article 1 of the Constitution entitled "Definition which appends the name of this corporation as the American Medical Association? It is a federacy of its constituent associations under Article 5, Section II, and Article 5, Section III. I do not expect the Speaker to furnish this information today, but I think it would relieve a great deal of doubt if he would give us a definition of federacy and whether or not these articles in the Constitution conflict legally with the fundamental object of this Association."

The Speaker said he would be glad to consider the subject and supply the information as soon as possible.

The Speaker extended to the delegates his sincere thanks for the kindnesses and courtesies they have shown him. He also extended his thanks to the various reference committees for the splendid work they had done in behalf of the House of Delegates.

As there was no further business to come before the meeting, the Speaker then declared the House of Delegates adjourned sine die.

ADDENDUM

(Add to report of Council on Health and Public Instruction, THE JOURNAL, May 27, pages 1623-1627)

REPORTS OF SUBCOMMITTEES OF THE COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

COMMITTEE ON HEALTH PROBLEMS IN EDUCATION

To the Council on Health and Public Instruction:

I submit herewith a brief report of the work of your subcommittee on Health Problems in Education for the past year. I have made report to the Council of the conference of the committees of the several state medical societies which was held in Boston last June and also of the meeting of the joint committee held in Des Moines last July at the time of the meeting of the National Educational Association. At this meeting the committee representing the educational group was taken over by the National Education Association. It had previously been since its appointment in 1911 a creature of the National Council of Education. The public meeting at Des Moines was attended by the largest audience which the committee has ever had the privilege to address, numbering about 1,500 persons. At this meeting the movement to extend the joint activities of the teaching and medical profession by the appointment of committees from the state teachers associations to cooperate with similar committees from the state medical societies were strongly endorsed.

At the winter meeting of the educational group, held in February, 1922, the joint committee met at the Auditorium Hotel on the morning of February 28. I enclose herewith official report of this meeting prepared by Dr. Thomas D. Wood, the chairman of our joint committee. I should like in this connection to comment on three items of importance in connection with this:

First, Professor Owen of the Chicago Normal College said that he has been a member of a committee of the National Educational Association, which has been at work for some years on a plan to reorganize the whole scheme of secondary education in this country. He stated that largely as a result of the work of our joint committee, health and education for health had been made the first item in this reorganized program of education. If the joint committee had accomplished nothing else than this radical change of opinion on the part of the leading educators of the United States, it would have more than justified its existence.

Second, Professor Owen also stated (and this was emphasized by other members of the educational group) that the teachers of this country were ready to introduce into the schools a health program and to enthusiastically carry it out if only a consistent workable program can be presented. For this they look to the medical profession. This matter was deemed of such importance that it was voted to hold a special meeting of the joint committee in Pittsburgh at some date in April next, at which time two days are to be devoted to a consideration of this matter. It is hoped that it will be possible to organize a strong state committee made up of persons who can speak with authority from the various points of view involved in such a program, which committee will undertake to construct a comprehensive medical scheme for the education of schoolchildren along health lines from the kindergarten upward.

Third, I was much impressed by certain comments, especially those by Professor Hetherington of the National Educational Association group, concerning the attitude of suspicion entertained in some parts of the country by the public and among them the teachers concerning the medical profession. He was intensely interested in the plan to secure cooperation between the state teachers' associations and the state medical societies throughout the country, but believed that some difficulty will be experienced in some quarters because of this attitude of suspicion of the motives of the medical profession. It was his opinion, in which I heartily concur, that a movement to secure cooperative action between the teachers and physicians in the several states in a study of the health problems in education would offer an opportunity to bring about better understanding of the motives and purposes of the medical profession, and through the teachers of better understanding on the part of the public than any plan that he could conceive. I would recommend that this movement of the several state medical societies, which has led to the appointment of committees in forty-two states, be promoted in every possible way.

I would even venture to suggest that if strong committees of teachers are appointed in more of the states, arrangements might be made to hold a meeting of the state teachers' association and the state medical society in the same city and in the same period for one year in order that one joint session of the state teachers' association and the state medical society might be held to consider this question of common interest, namely, the health problems in education.

Respectfully submitted.

JOHN M. DODSON,
Chairman.

April 13, 1922.

MINUTES OF THE ANNUAL MEETING OF THE JOINT COMMITTEE ON HEALTH PROBLEMS IN EDUCATION AT BREAKFAST CONFERENCE, AUDITORIUM HOTEL, CHICAGO

In attendance: Miss Katherine Devereaux Blake, Miss Ada Van Stone Harris, Mrs. Josephine Corliss Preston, Mrs. Ira Couch Wood, President Aley, Dr. Dodson, Dr. Green, Professor Hetherington, President Keyes, Superintendent Keating, President Owen, Commissioner Tigert, Dr. Winship and Dr. Wood.

The chairman presented a brief report on the program and progress of the committee.

The following reports were presented by members of the Joint Committee:

(a) Report by Mrs. Wood on Cooperation with Other Organizations.

(b) Report by Mrs. Wood on the progress of the subcommittee on the revision and reconstruction of the manuscript on "Health Improvement in Rural Schools." It is expected that this report will be completed, printed and ready for distribution at the National Education Association meeting at Boston in July.

(c) Report by Dr. Dodson on the organization in various states of joint committees on health problems in education of the state medical societies and the state teachers' associations. An encouraging beginning has been made in several states in the organization of these joint committeers.

Members of our parent national joint health committee were urged to do everything possible to promote in their own and in other states the organization of the corresponding joint committee.

(d) Report by Mrs. Wood (for Dr. Corwin, chairman) of the Committee on Ventilation of Schools.

Mrs. Wood read a carefully prepared, valuable report which was listened to with careful attention.

It was the sense of the joint committee that this report should be considered a report of progress; that the subcommittee should continue, under Mrs. Wood as acting chairman, the investigation of the important subject of school ventilation, and that the provisional report should be mimeographed and sent to the members of the committee, but that the material should not be put into print as the report of the committee.

The following motions were also adopted at the meeting:

1. That a resolution be transmitted to the Trustees of the Elizabeth McCormick Memorial Fund expressing appreciation by the Joint Health Committee of the generous support which has been given through the years to the program and work of our joint committee, and further appreciation of the splendid and effective service and cooperation which have been given by Mrs. Ira Couch Wood, director of the Elizabeth McCormick Memorial Fund, and valued member of our joint health committee.

2. Motion that the chairman appoint a committee of persons within and outside of our joint committee to prepare a comprehensive report for elementary schools on education for health.

3. Motion that a conference of our joint committee be held in Pittsburgh at some week-end (including Saturday and Sunday) not later than May 1, and that a stenographer be employed for that meeting. The purpose of this conference is to formulate a comprehensive plan of health education in the schools which may be ready for a report at the National Education Association meeting in July at Boston.

This recent meeting at Chicago surpassed all previous conferences of our committee in numbers attending, and in constructive interest manifested.

You are asked for suggestions regarding the general work of our committee and for information and advice in answer to the questions on the accompanying sheet.

The proposed working conference of our joint committee to be held in Pittsburgh in April is considered to be of the greatest importance to the program and the future work of our committee. Miss Harris has offered to make the local arrangements for our conference in Pittsburgh.

The payment of their expenses by those attending the conference will be further evidence of devotion to the work of our joint health committee. You are urged to attend the Pittsburgh conference if possible.

With cordial greetings to all members of our committee.

THOMAS D. WOOD, Chairman.

COMMITTEE ON COOPERATION OF WOMEN'S FOUNDATION FOR HEALTH

To the Council on Health and Public Instruction:

In 1914 the committee of which I had the honor to be chairman, namely, the Women's and Children's Welfare Committee, issued the Babies Standard Score Card, two pamphlets entitled "How to Hold a Baby Health Conference" and "Save the Babies" pamphlet, together with a series of fifteen posters known as the Baby Welfare Posters. Later we secured records from reliable sources—over 10,000 in number—and from them Mr. F. S. Crum made up our Anthropometric Table.

My committee now wishes to present to you the following report based on a program emphasizing the positive phase of health for women and girls.

It now has a series of pamphlets, six in number, and posters on the presses of this Association under the name of "Official Series on Positive Health" and it is to be distributed by the Women's Foundation for Health. The Council on Health and Public Instruction has read, given constructive criticism and approved the manuscripts in the series.

The table of contents of the series is as follows:

TABLE OF CONTENTS

Chapter I.—The Newer Conception of Health. Part One.—Health Examinations. A. Interpretation of Medical Examination Card. B. Interpretation of Physical Examination Card. Detailed suggestions for Physicians, Nurses and Directors of Physical Education. Part Two—Individual Exercises.

Chapter II.—The Individual and the Community. Part One.—How Are You? Part Two.—A Look at Herself. Part Three.—Local Health Foundations. Part Four.—Feet, Posture, Shoes and Walking.—Bureau of Social Education, National Board of the Y. W. C. A., New York City.

Chapter III.—Nutrition in Relation to Health and Efficiency.—E. V. McCollum, Professor of Bio-Chemistry, School of Hygiene and Public Health, The Johns Hopkins University, Baltimore.

Chapter IV.—Mental Health. Part One.—Living at Our Best.—William A. White, M.D., Superintendent St. Elizabeth's Hospital, Washington, D. C.

Part Two.—Bringing Up Children. A. Infancy and Childhood. B. Adolescence.—Jessie Taft, Ph.D., Director, Department of Child Study, Philadelphia.

Chapter V.—The Heritage of Life.—Walter B. Cannon, M.D., Harvard Medical School, Boston.

Chapter VI.—Recreation. Part One.—Recreation for Health Building.—E. C. Lindeman, Professor of Sociology, North Carolina College for Women, Greensboro, N. C. Part Two.—Recreation and Health.—Bureau Social Education, National Board of the Y. W. C. A., New York City.

The Official Series on Postive Health is issued in two forms, viz., Hand Book and Pamphlets. The Hand Book contains six chapters. The Pamphlets are six in number. Each pamphlet is a reprint of the corresponding chapter in the Hand Book. For example, Pamphlet V of the Series of the Pamphlets is the same as Chapter V in the Hand Book.

Each organization within the Women's Foundation for Health will use this official series as a common text and each organization will execute as much of the program as its organization is able to do.

The cooperating National Organization whose health activities are correlated are as follows: National League of Women Voters; American Association of University Women; National Association of Deans of Women; American Home Economic Association; Council of Jewish Women; General Federation of Women's Clubs; Medical Women's National Association; National Board of Young Women's Christian Associations; National Congress of Mothers and Parent-Teachers Associations; National Council of Women; National Federation of Business and Professional Women's Clubs; National League of Women Workers; National Women's Christian Temperance Union; National Women's Trade Union League; Women's Department: National Civic Federation.

Respectfully submitted.

LENNA L. MEANES, M.D., Chairman.

REGISTRATION AT ST. LOUIS

The total registration at the St. Louis session was 5,174. Below are given two summaries, one by sections and one by states:

REGISTRATION OF SECTIONS

Practice of Medicine	1,667
Surgery, General and Abdominal	1,171
Obstetrics, Gynecology and Abdominal Surgery	276
Ophthalmology	314
Laryngology, Otology and Rhinology	285
Diseases of Children	237
Pharmacology and Therapeutics	26
Pathology and Physiology	84
Stomatology	34
Nervous and Mental Diseases	128
Dermatology and Syphilology	112
Preventive and Industrial Medicine and Public Health	163
Urology	166
Orthopedic Surgery	91
Gastro-Enterology and Proctology	108
More than one section, or no section given	312
	5,174

REGISTRATION BY STATES

Alabama	22	Nevada	2
Arizona	4	New Hampshire	4
Arkansas	129	New Jersey	16
California	73	New Mexico	6
Colorado	69	New York	147
Connecticut	13	North Carolina	16
Delaware	1	North Dakota	6
Dist. of Columbia	22	Ohio	204
Florida	12	Oklahoma	168
Georgia	23	Oregon	20
Idaho	1	Pennsylvania	141
Illinois	1,033	Rhode Island	2
Indiana	236	South Carolina	10
Iowa	147	South Dakota	11
Kansas	211	Tennessee	123
Kentucky	136	Texas	167
Louisiana	74	Utah	7
Maine	3	Vermont	5
Maryland	26	Virginia	22
Massachusetts	48	Washington	18
Michigan	101	West Virginia	17
Minnesota	87	Wisconsin	80
Mississippi	36	Wyoming	5
Missouri	1,346	Miscellaneous	41
Montana	11		
Nebraska	72	Total	5,174

THE SCIENTIFIC ASSEMBLY

THE OPENING GENERAL MEETING

Tuesday Evening, May 23

The opening meeting of the Association was held at the Odeon Theater, and was called to order at 8:30 by the President, Dr. Hubert Work, Pueblo, Colo.

Rt. Rev. Daniel S. Tuttle delivered the invocation.

Addresses of Welcome

After announcements of entertainments by Dr. Robert E. Schlueter, chairman of the Local Committee of Arrangements, the acting mayor of St. Louis, Mr. Louis P. Aloe, was introduced, and delivered the following address of welcome:

ADDRESS OF WELCOME BY ACTING MAYOR ALOE

Mr. Chairman, Ladies and Gentlemen: As acting mayor of St. Louis, it is my profound privilege and pleasure to greet you and to welcome to our city the delegates of the Seventy-Third Annual Session of the American Medical Association. The city of St. Louis embodies and blends the culture of the East, the energy of the North, the hospitality of the South and the vision of the West, and in that spirit, which so well typifies our city and with particular reference to the element of our well known Southern hospitality, I bid you welcome. (Applause.)

I enjoy this opportunity very much indeed, for not only do I speak to you tonight as acting mayor, but it so happens that ever since my school days I have been engaged in the surgical instrument trade, and thus I am also able to speak to you as a semiprofessional medical man; as one who has enjoyed the privilege of intimate association with the physicians and surgeons of America; as one who has a rather fair knowledge of the American Medical Association, its purposes, its aspirations and its ideals.

I am told that this is your fifth session held in St. Louis, and that our city has the proud distinction of having furnished three past presidents, Dr. Charles A. Pope, Dr. John T. Hogden and Dr. Elisha H. Gregory; and I bow my head in respect to the sainted memories of these splendid men as well as that of Dr. William Beaumont, the most distinguished St. Louis physician of all times. (Applause.)

I am also told that from a very humble beginning, with only several hundred members, this Association has evolved until it stands today as one of the great commanding national associations of America. I know of my own knowledge that you have aroused the best energies of all the physicians of this land, that you have called into the great arena for the modern development of medicine and surgery the best there is of the brain and the sinew and the soul of your profession, and that you offer to physicians in the humblest walks of life the vehicle that should kindle in their hearts the desire and ambition to do better and greater things, and, above all, you stand unalterably for a policy under which the United States is destined to become the leading nation of the world in scientific medicine.

In my daily contact with physicians I have often felt that this great central medical body comes far from occupying the place which it should occupy in the hearts and minds of our citizens. How few of the general public realize that, when the standard of medical education is elevated, when the medical laws of the various states are made more stringent, when the products of pharmaceutical houses are rigidly scrutinized and tested, when it is insisted that the rural population is entitled to and shall have physicians of the same educational qualifications as those of the larger cities, those who primarily profit thereby, those who are benefited and those who are protected thereby, are the men and women, the children and the babies, in short, the entire citizenship of America. (Applause.)

It has also seemed to me that the American Medical Association stands as a great public benefactor, as a sentinel on guard for the physical welfare of the race, saying to the charletan, the impostor and the quack, as General Joffre said to the German invading army at the Battle of the Marne, "Halt: thou shalt not pass!" (Applause.)

As a medical center, we modestly maintain that our city ranks as the equal of any in the United States. We point with considerable pride to our two great universities of medicine, unsurpassed by any in the country and classed as A plus. We point to the wonderful development of our group of modern, up-to-date hospitals, to the high standard of our medical clinics, and to the truly magnificent and progressive municipal institutions, for the treatment of diseases of every character and description. To these, in particular, we point with especial pride; let me emphasize this, if I may, to the outstanding overshadowing personnel of our medical men: men who are nationally known and recognized; men who are leaders in their respective fields of endeavor; men who have made valuable contributions to medical science.. (Applause.)

In my official capacity I happen to be the presiding officer of our municipal legislative body, and I am happy to be able to tell you a fact that no doubt you will be interested to know, that recently, responding to a demand made upon us, we adopted measures which make us the first and only city in the United States authorizing by legislative enactment the furnishing of the material by the municipality for the practice of animal experimentation in the medical schools. (Applause.)

And with the acquisition of a great Public Health Service hospital, conducted by the federal government, and the further acquisition of the National Shriners Hospital for the treatment of crippled children, both to be built here soon, we feel that, indeed, we are marching forward, and that St. Louis as a great medical center is on the way.

In closing, may I be permitted to pay this one tribute to your profession, without being charged with a desire to indulge in Fourth of July oratory—that during the period of the World War, notwithstanding the fact that medical men had nothing but their incomes derived from their practice with which to sustain their families—they rose up in all their majesty and wrote their proud war record known today throughout the entire confines of this country, as among the first to volunteer for service, as among the most untiring, the most loyal, the most patriotic, the most 100 per cent. American citizens in these United States. (Applause.)

And now in bidding you good-night, permit me to extend to you the sincere greetings of all of our people, and in their name and in their behalf, and in behalf of the municipality that I have the honor to represent, to bid you a cordial and whole-hearted welcome, and at the same time to convey to each and every one of you the mystic key that unlocks the door of this city's wide domain of beauty, of pleasure and of boundless hospitality. (Applause.)

ADDRESS OF WELCOME BY DR. WILLIAM W. GRAVES, PRESIDENT OF ST. LOUIS MEDICAL SOCIETY

Dr. William W. Graves, president of the St. Louis Medical Society, was introduced, and delivered an address of welcome on behalf of the medical profession, saying:

Mr. President and Fellows of the American Medical Association, Ladies and Gentlemen: The city of St. Louis and the St. Louis Medical Society have had the honor of being host to the American Medical Association on four previous occasions (in 1854, 1873, 1886 and 1910). The St. Louis Medical Society is the largest unit of the American Medical Association west of the Mississippi River, and is one of the oldest medical societies in the country. In this, the eighty-sixth year of its existence, it numbers more than 1,000 members. The St. Louis Medical Society has always stood for good citizenship. No medical society of similar membership had larger representation in the great World War. The members of the St. Louis Medical Society hold inviolate these prin-

ciples: (1) that only those adequately trained in the arts and sciences should presume to exercise the functions of the physician, and (2) that all those exercising such functions who do not constantly strive to recognize, control and prevent disease are real foes to human progress. The members of the St. Louis Medical Society have always striven for healthful conditions in the individual, in the home and in the masses; hence they have been prime factors in making St. Louis one of the most healthful cities in the world today. Indeed, their past achievements and present activities are comparable to the best medical endeavor anywhere.

Mr. President, the St. Louis Medical Society is proud of its affiliation with the American Medical Association. This Association has unceasingly opposed nostrums, quackery, ignorance and superstition, not by persecution, but by earnest and consistent effort in education. Thus has the American Medical Association become a great force, not for human retardation, but for human enlightenment and human advancement. It has raised the standards of education in our medical schools. It has fostered postgraduate medical work. It has increased medical and public interest in public health matters. It has promoted the aims and ideals of physicians everywhere. In all these and in other directions the American Medical Association has done more to further human health, and consequently human efficiency, than any other single agency in human history. Mr. President, every member of the St. Louis Medical Society feels that no greater privilege can come to the citizens of a community than that of entertaining this, the most useful of all medical organizations. The hearts of more than a thousand St. Louis physicians beat in unison with joy on this occasion, as the St. Louis Medical Society again extends to the American Medical Association a whole souled and sincere welcome.

ADDRESS OF THE PRESIDENT

President Work, in introducing his successor, said:

As President of the American Medical Association, I am about to surrender the title of the most distinguished honor the American Medical Association can bestow on a Fellow, and I am about to bestow it upon a member of the medical profession who has distinguished himself, not only in this country as a teacher and as a practitioner of medicine, but abroad, by his writings on medical subjects. It is no longer possible for any man to introduce my successor to any American medical audience; I therefore present your new President, Dr. George E. de Schweinitz, Philadelphia. (Applause.)

Dr. de Schweinitz then delivered his address, which was published in THE JOURNAL, May 27, p. 1583.

SCIENTIFIC EXHIBIT

This year the exhibit exceeded expectations in the number of exhibitors, while the quality of the work shown was of a high order. The setting for the exhibit was much better than usual; the booths were of pleasing appearance, painted green with white trimmings, and with overhanging plants. As has been customary, the exhibit was classified. The educational section included a number of exhibits of charitable or semipublic organizations. Probably the pathologic section was the most interesting. Here one found such exhibits as that on pelykography (Dr. Reuben Peterson, University of Michigan); studies on ringworm fungi (Mr. Robert Hodges, University of Alabama); specimens of flagellate protozoa under well illuminated microscopes (Dr. Kenneth Lynch, Dallas, Texas); work on the bile factor in pancreatitis (Drs. F. C. Mann and A. S. Giordano, Mayo Clinic); gross pathologic specimens and comparative roentgen-ray records (Dr. Eugene Opie, St. Louis), and the excellent work on renal circulation (Department of Urology, University of California). The most striking exhibit in the surgical section was the display of plaster casts and comparative photographs dealing with facial surgery; one half of the exhibit was devoted to civilian work, the other half to war reconstruction (Dr. Vilray P. Blair, St. Louis). In the medical section the diagnosis of syphilis from the laboratory point of view was well presented (Dr. Loyd Thompson, Hot Springs, Ark.); in another booth was an interesting exhibit of pigeons illustrating vestibular tremors (Dr. C. L. Woolsey, Boston). In addition to the foregoing were a large number of electrocardiographic exhibits. The total number of exhibitiors was forty-eight, thus divided: educational, twelve; pathologic, ten; surgical, six; medical, six; electrocardiographic, fourteen. On the stage of the auditorium the work of the various councils and the chemical laboratory of the American Medical Association was shown.

REPORT OF THE COMMITTEE ON AWARDS

The Committee on Awards, Scientific Exhibit, makes the following recommendations:

The Gold Medal to Drs. Frank Hinman, D. M. Morison, A. E. Belt and R. K. Lee-Brown of the University of California Medical School, for a study of renal circulation.

The Silver Medal to Mr. Robert A. Hodges, University of Alabama, for a study of certain culture-medium characteristics of ringworm fungi.

The Certificate of Merit to Dr. Vilray Papin Blair, St. Louis, for an exhibit of photographs and plaster casts showing various types of face restoration.

The committee also desires to give honorable mention to the following exhibitors:

Dr. K. M. Lynch, Dallas, Texas, for a study of the cultivation and differentiation of flagellate protozoa.

Drs. F. C. Mann and Alfred S. Giordano, Mayo Foundation, Rochester, Minn., for studies on the bile factor in pancreatitis.

Dr. Eugene Opie, Washington University, St. Louis, for a comparison of roentgen-ray records and gross pathologic specimens.

Miss Elizabeth Green, Barnes Hospital, St. Louis, for a demonstration of methods used in distributing books in hospitals.

The committee desires to suggest that in future prospective exhibitors be notified that awards are made for individual investigations, which are judged on the basis of originality and excellence of presentation.

W. B. CANNON,
GEORGE DOCK,
LOUIS B. WILSON.

MOTION PICTURE THEATER

The motion picture theater, run in connection with the scientific exhibit, operated continuously from noon on Monday to noon on Friday. Sixty different periods were scheduled, either of thirty or of forty-five minute duration. So well did the speakers or exhibitors of films cooperate that the schedule was maintained strictly on time except in one instance, and then it was only seven minutes off. Attendance was so good that frequently people had to be turned away. The excellence of the program and the interest shown augurs well for this feature in future meetings.

Antiseptic Action of Coal-Tar Dyes.—At a recent meeting of the Society of Chemical Industry at Manchester, the facts concerning the extraordinarily potent antiseptic properties possessed by many of the coal-tar dyes was discussed. Bechhold and Ehrlich, in 1906, studied the antiseptic action of halogen compounds of phenol and naphthol, and obtained results which show clearly the extraordinary variations in antiseptic action produced by slight changes in chemical constitution, and also the markedly specific action of some compounds. These points are illustrated by stating the minimal lethal concentration for certain micro-organisms of three closely allied naphthol compounds: dibrombetanaphthol is fatal to *B. coli* in a concentration of 1:30,000, and to *B. diphtheriae* in one of 1:40,000; tribrombetanaphthol kills *B. coli* in a concentration of 1:2,000, and *B. diphtheriæ* in one of 1:400,000; tetrabrombetanaphthol has a lethal action on *B. coli* in a concentration of 1:1,000, and on *B. diphtheriæ* in one of 1:200,000.

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SATURDAY, JUNE 3, 1922

THE ST. LOUIS SESSION

The Annual Session of the American Medical Association in 1922 at St. Louis must be regarded as the most successful of any thus far held—taking all things into consideration. The registration (5,174) has been exceeded only three times: in 1908, at Chicago (6,446); in 1918, again in Chicago (5,553), and last year at Boston (5,506). But both Chicago and Boston are centers of population far larger than St. Louis, and each had a much larger number of resident physicians registered.

The scientific work was unusually good; many of the halls carried the "Standing Room Only" sign during the presentation of papers of unusual interest and during the symposiums on special subjects. Three of the sections combined in a symposium on the internal secretions, and two sections combined in a symposium on gastric and duodenal ulcer. Other symposiums on syphilis and malignant tumors attracted attention, and a group of papers on blood and urine chemistry in relation to renal function aroused extended discussion.

The Scientific Exhibit, as reported elsewhere in this issue, was elaborate and of an unusually high order, many stating it to be by far the best yet presented at an annual session. The Committee on Awards had great difficulty in making its selections because of the excellence of the numerous exhibits. The motion picture theater, a part of the Scientific Exhibit, was constantly attended by from three to five hundred persons, and repeatedly, large numbers were unable to gain admission.

The exhibitors in the Commercial Exhibit would seem to have made a special effort this year to present the scientific side of the provision of accessories to medical science. Pharmaceutical houses showed in miniature the methods of preparation of drugs and food products; publishing concerns had available new editions and historical exhibits of great interest, and manufacturers of apparatus demonstrated advances in the form of roentgen and light therapy and in the use of electrical devices as aids in diagnosis. All of the exhibits were attended by large numbers of physicians, who were practically unanimous in expressing their satisfaction with the value of the displays.

The press of St. Louis featured the annual session of the Association throughout the week, devoting much space to descriptions and photographs of various aspects of the organization and scientific work; moreover, the accounts were marked by an exceptional conservatism and accuracy.

Too much praise cannot be given the Local Committee of Arrangements for the preparations made for this session. From the first there was earnest and hearty cooperation between the Local Committee and the local profession; likewise, between the Local Committee and the Central Office of the Association. As might have been anticipated, therefore, the results were satisfaction in every particular. This applies to meeting places, to the social functions and, above all, to hotel accommodations. While the attendance was even larger than was expected, practically every one was satisfactorily provided for in hotels, and a few only in private homes.

ECZEMA IN BREAST-FED INFANTS

The etiology of eczema has long been a puzzling problem in medicine; hence the recent suggestion that some of its forms may represent a consequence of specific hypersusceptibility to foreign proteins has created renewed interest in the disease. It has required no unusual stretch of the imagination to conceive how persons on mixed diets might react by skin manifestations to the chance ingestion of some food item to which the individual concerned was demonstrably hypersensitive. Numerous records have been accumulated, since the study of protein sensitization has become prominent and its possibilities have been more widely recognized by physicians, to show illustrative instances of positive skin reactions associated with dietary factors. Withdrawal of the offending foods is promptly followed by relief of symptoms; and cutaneous tests with the suspected product in sensitive patients are wont to produce positive responses.

That comparable manifestations of sensitization to foods should occur in breast-fed infants has seemed unlikely. One might suppose that the organism of the young is adapted to utilize mother's milk successfully, if it can tolerate anything. Hence the assumption that the eczema of breast-fed babies could be associated with the sort of dietary factors incriminated in the cases referred to has seemed quite untenable. A recent writer has admitted that the etiology of eczema in the breast-fed child has been almost a mystery; treatment has been empiric, and results have been unsatisfactory. It comes as both a surprise and a satisfaction to learn that breast milk may transmit foreign proteins derived from the foods of the mother, and that they may prove to be responsible for eczema in a large percentage of breast-fed babies.[1]

1. Shannon, W. R.: Demonstration of Food Proteins in Human Breast Milk by Anaphylactic Experiments on Guinea-Pigs, Am. J. Dis. Child. **22**: 223 (Sept.) 1921.

Shannon,[2] however, has recently fortified his earlier views on this theory of the etiology of eczema by new evidence. Possible sensitization of the infants has been determined by the now well known methods[3] of cutaneous tests with somewhat purified food proteins. Thereupon, removal of certain protein sources from the diet of the mother usually results in cure of the condition in the patient. In cases in which all the foods cannot be eliminated from the diet of the mother, their limitation will often result in improvement of the eczema, presumably because there is a threshold in the mother up to which the food may be eaten without appearing in the breast milk. According to Shannon, sensitization is usually multiple, and may be due to a majority of the foods in the dietary of the mother. Sensitization tends to become more widespread in a great many cases as time goes on, owing to the acquisition of sensitization to new foods. As the result of his investigations, Shannon concludes that the proper study of all cases of eczema in breast-fed babies which do not yield promptly to the older methods of treatment requires the determination of sensitivity in the infant to all the foods contained in the diet of the mother and, in the event of exacerbations, the frequent repetition of these tests. Until the physician has done this, says Shannon, he cannot be considered as having done his whole duty to the patient. The newer technic of clinical diagnosis has once more augmented the possibilities of good therapy and rational prophylaxis.

LIFE AT HIGH ALTITUDES

The entrance of natives of the temperate zones more or less permanently into the activities of the tropics, with the extreme unlikeness of climatic conditions, has often raised the question of the possibility of the physiologic adjustment of white men to the tropical environment. The differences in temperature, humidity and solar radiation, not to mention the unusual character of the food supply and the diseases peculiar to the hotter regions of the earth, call for adjustments of a biologic as well as a sociological sort to a degree that has elicited many pessimistic statements. The questions at issue, many of them proper subjects for direct experimentation, are still being debated; and such scientific laboratories as may now be found in India, in the Philippines and in the Federated Malay States, for example, are helping to contribute answers to the problems raised by man's increasing migrations, made possible by the growing ease of transportation.

Similarly, a larger interest in the physiology of life at high altitudes has been awakened by the suddenly arrived prominence of aviation. Up to the time of the advent of the airship and the aeroplane, the occasional contributions to the subject were associated with ballooning or with mountaineering; indeed, the common use of the terms "alpinism" and "Alpine physiology" two decades ago attests to the direction of the interest in the subject. The Alps with their scientific laboratory on Monte Rosa became the Mecca for students of the effects of rarefied atmosphere. Today, life at high altitudes is enforced on a considerable number of persons. Can they become adjusted to it, or do the "dizzy heights" suggest a menace to unacclimatized dwellers on the lowlands?

Schneider[1] has well designated altitude as a climatic condition that causes physiologic changes which affect our bodily comforts. Among its variables, he remarks, are lowered atmospheric pressure, partial pressure of oxygen, temperature and humidity, and increased intensity of sunshine and electrical conditions. While in the past the effects of altitude have been attributed to one or more of these variables, it is today recognized that the controlling element in the physiologic reactions is the diminished partial pressure of oxygen and the consequent imperfect aeration of the arterial blood. According to the best evidence now available, between 23,000 and 25,000 feet appears to be the upper altitude limit for consciousness for unacclimatized men. Even much lower altitudes provoke marked discomfort, as even an unfatigued traveler reaching Pike's Peak, at a height of 14,100 feet, may observe. Yet there are permanent residential camps at altitudes as great as this in which persons reside for long periods. Some of these are found in the Andes, in Peru, where, according to Barcroft,[2] the native population has lived for many generations. The mining centers there likewise contain Americans who have migrated in more recent times. The investigations there by the latest expedition of English and American physiologists early in this year showed that, despite the low oxygen tension of the atmosphere at 14,000 feet, those acclimated could engage in a fair amount of sustained mental work for long periods; but with regard to muscular work, which calls for oxidative metabolism, there were evident limitations to the effort of even the most acclimatized. The natives can perform remarkable feats of work, but only when there are frequent pauses to enable them to "square the oxygen account." The arterial blood was usually only about 85 per cent. saturated with oxygen. The shape of the chest, as indicated by the roentgenograms, showed that the sternum was carried in an elevated position, and the ribs were more nearly horizontal than in the normal.

The alleged compensatory increase in the number of red blood cells whereby the oxygen-carrying capacity of the circulating medium is augmented[3] was also noted by the Andean investigators. Among residents at 14,000 feet, erythrocyte counts up to 8,000,000 per

2. Shannon, W. R.: Eczema in Breast-Fed Infants as a Result of Sensitization to Foods in the Mother's Dietary, Am. J. Dis. Child. **23**: 392 (May) 1922.
3. Walker, I. C.: Oxford Medicine **2**: 122.

1. Schneider, E. C.: Physiological Effects of Altitude, Physiol. Rev. **1**: 631 (Oct.) 1921.
2. Barcroft: The Physiology of Life on the Andes, Brit. M. J. **1**: 648 (April 22) 1922.
3. A review of this subject is given by Bürker, K.; Joos, E.; Moll, E., and Neumann, E.: Ztschr. f. Biol. **61**: 379, 1913.

cubic millimeter were made, with corresponding hemoglobin values. Barcroft concluded that the study of the blood gases in the residents of the Peruvian Andes suggested that the blood acquires its oxygen more easily at high altitudes than at sea level. It is not yet clear whether the theory of oxygen secretion by the lungs, as propounded by Haldane after the Anglo-American Pike's Peak expedition, is to be revived. He maintained that diffusion alone cannot account for the effective intake of oxygen at altitudes, but that it is supplemented by an active secretion of the gas by the pulmonary epithelium. Most investigators [4] have insisted that at both high and low altitudes the oxygen enters the blood solely by diffusion through the epithelium of the lungs. At any rate, it must be admitted today that "life can be carried on in a comparatively comfortable manner without production of gross permanent disabilities, consistently with the degree of unsaturation of the blood" already described. The ability of the human organism to adjust itself to adverse physiologic circumstances is truly remarkable.

SIMPLE GOITER—A PREVENTABLE DISEASE

The results of the elaborate investigations in this country by Marine and his collaborators, details of which have repeatedly been reported in THE JOURNAL, have led him to state that "simple goiter is the easiest of all known diseases to prevent." Similarly McCarrison,[5] speaking on the basis of a long experience in both Great Britain and India, has lately remarked that our knowledge of the causes of simple goiter "is now sufficiently definite to enable us to prevent and cure this condition. It is preeminently one which need not exist in this country [England] if such knowledge of its causation and of its prevention as we already possess be but applied."

Such unqualified announcements constitute a challenge to the medical profession, and a mandate to preventive hygiene in which the public may have a vital interest. The problem is by no means one of minor consequence from a national standpoint. The estimate of the Goiter Commission of France in 1874, indicating the existence of 500,000 goitrous persons and 120,000 cretins and cretinoid idiots in that country, or, again, Kocher's statistics showing 80 per cent. or more of the schoolchildren in Berne to be goitrous, may seem to us in the United States and in 1922 as the ancient history of far-away regions. When we are assured by the rapidly accumulating data that thousands of our American youth show the endemic incidence of simple goiter, the seriousness of the situation is "brought home." Thus from Camp Lewis, Washington, Kerr [6] reported the examination of 21,182 recruits, with the finding of 1,276 large or well formed goiters. Hence Kimball,[7] who has reviewed many of the authentic records, frankly concludes that goiter may be considered as distinctly endemic in certain sections of the United States. Furthermore, it is not irrelevant from an economic standpoint to note that domestic animals are also the victims of thyroid disorder.

Science is now prepared to contribute certain precise and well established information in respect to the thyroid structures. Iodin is essential for their normal function. As soon as the store or supply of this element decreases markedly, active hypertrophic and hyperplastic changes occur in the thyroid. They are therefore due to a deficiency of iodin, and these anatomic changes do not occur when the iodin store of the glands is maintained. Simple goiter is thus the expression of a deficiency, and prophylaxis consists in prevention of the deficiency. The elaborate clinical experiments on schoolchildren at Akron and elsewhere, the details of which have lately been summarized by Kimball,[7] have furnished conclusive evidence of the effectiveness of assuring the intake and absorption of a few milligrams of iodin each day in the regions where the deficiencies somehow arise. The experience of Klinger,[8] in Switzerland, is eminently confirmatory, and it now seems likely that the plan of goiter prevention will become a public health measure in "the most noted endemic goiter nation in the world." McCarrison,[9] who has long been a champion of the importance of gastro-intestinal infection as a goiter-producing influence, does not hesitate to stress the significance of iodin. Thus, in an attempt to reconcile conflicting views, he [5] has asserted that "the factors which give rise to goiter center round the supply of iodin and the needs of the thyroid gland for iodin."

"Now this supply of iodin," says McCarrison, "is dependent on a multiplicity of factors both extrinsic and intrinsic to the body. It is dependent on the iodin content of the food and water; and this in its turn is dependent on altitude, distance from the sea-coast, and the iodin content of the soil from which both vegetable foods and water derive their iodin supply. Again, the supply of iodin to the thyroid gland, and of the gland's iodin-containing secretion to the body cells, is dependent upon the adequate absorption and assimilation of iodin; this in its turn is influenced by factors such as disordered function of the gastro-intestinal tract and bacterial intervention in the digestive tube, both of which may interfere with the adequate absorption and assimilation of iodin. On the other hand, the needs of the thyroid for iodin are dependent on the needs of the body cells for the active iodin-containing principle of the gland, and these in their turn are dependent upon a multiplicity of factors, such as food balance (excess of fats, for example, increasing these needs), metabolic variations, age, sex, puberty, sexual activity, pregnancy, menstruation, infections and season. There is further to be considered the capacity of the thyroid gland to utilize iodin and efficiently to manufacture its hormone; here are involved such factors as heredity and excessive stimulation of the gland, which may be induced by nervous, toxic or infectious influences, and impairment of its function,

4. Barcroft, J.; Cooke, A.; Hartridge, H., and Parsons, T. R.: J. Physiol. **53**:450, 1920.
5. McCarrison, R.: Simple Goiter, Brit. M. J. **1**:636 (April 22) 1922.
6. Kerr, W. J.: Arch. Int. Med. **24**:347 (Sept.) 1919.
7. Kimball, O. P.: The Prevention of Simple Goiter in Man, Am. J. M. Sc. **163**:634 (May) 1922.
8. Klinger, R.: Schweiz. med. Wchnschr. **51**:12 (Jan. 6) 1921.
9. McCarrison, R.: The Thyroid Gland in Health and Disease, London, 1917.

which may be induced by hereditary influences or by toxic or microbic agents, the two last being frequently of gastro-intestinal origin."

The remote cause of goiter and the local factors which in ultimate analysis distinguish physiologic life in goitrous and nongoitrous districts frankly remain to be elucidated. Nevertheless, as Kimball concludes, the same imagination which developed the practical application of the principle of the prevention of goiter can now see, a few generations hence, the closing of the chapters on endemic goiter and cretinism in every civilized nation in the world. What are we doing to facilitate this fortunate outcome?

PURGATION AND RENAL EXCRETION

The Pharmacology of Useful Drugs [1] points out that the want of exact knowledge concerning the absorption of drugs is a common cause of disappointment. The mere fact that a substance is readily soluble in water does not of itself guarantee prompt absorption from the alimentary tract. On the other hand, seemingly insoluble substances, such as certain glucosids or resins, seem to be absorbed with considerable readiness. Again, the unlike permeability of different regions of the long gastro-intestinal canal to substances represents another factor of uncertainty regarding their fate in absorption. The stomach, for example, admittedly does not function actively under most conditions as an organ for absorption. Substances which penetrate the alimentary barrier are for the most part carried by the portal circulation to the liver, where they may be "filtered out" or altered before being passed on to the general circulation; but, thanks to its peculiar blood supply, the rectum affords a direct circulatory path for absorbed compounds into the systemic circulation, thus accounting for the rapid action of potent substances introduced into the end of the alimentary canal.[2]

That conditions associated with the intestinal canal may influence the excretory functions of the body through renal channels has not been clearly recognized. Macht [3] has recently made the unique observation that the excretion of a readily eliminated compound, phenolsulphonephthalein, widely used in tests of kidney function, may be markedly delayed by previous administration of saline purgatives. It might be supposed, at first consideration, that this unexpected outcome is attributable to an interference of the salts with the absorption of the test drug; but the retarded elimination is also noted when phenolsulphonephthalein is introduced by intravenous channels which take it into the circulation without reference to the alimentary tract. The phenomenon of the delay in the excretion of the drug after oral administration of saline purgatives has been noted in man as well as in animals, and invites attention in clinical circles. The saline cathartics are so commonly administered that their possible effect on the absorption, distribution and excretion of drugs or toxins deserves most careful consideration in the light of Macht's findings. As he himself points out, it would seem to be of vital importance not to administer the salines simultaneously with or a short time before the injection of phenolsulphonephthalein for the performance of kidney function tests. Whether or not other types of purgatives affect elimination in a similar way remains to be learned; at any rate, the routine practice of purging patients with saline solutions prior to surgical operations may need to be considered in relation to possible effects on excretion, particularly if the results discovered by Macht are found to be due to a depletion of the body tissues in fluid diverted to the intestinal lumen.

1. Hatcher, R. A., and Wilbert, M. I.: The Pharmacology of Useful Drugs, Chicago, American Medical Association, 1915, p. 7.
2. Meyer, H. H., and Gottlieb, R.: Die experimentelle Pharmakologie, Vienna, 1921, p. 194.
3. Macht, D. I.: Concerning the Effect of Saline Purgatives on the Absorption and Excretion of Phenolsulphonephthalein, J. Urol. 7: 273 (April) 1922.

UNDERNUTRITION IN COLLEGE WOMEN

The dire results of undernutrition for the welfare and the physical and intellectual efficiency of man have often been sketched since the beginning of the World War in 1914. The pictures of physiologic poverty have not been merely the fantastic creations of political propagandists. The effects of an insufficient food allowance have been attested by careful observers, persons of scientific accomplishment, who are accustomed to distinguish critically between fact and fancy. Rubner has remarked that the first result of an insufficient diet is a decrease in the efficiency of laborers.[1] This is shown by the fact that fatigue comes on more quickly than usual. There is a decrease in the muscular efficiency not only of paid laborers, but also of persons living sedentary lives; the muscular activities which are concerned with the normal preservation of health become restricted. The love of roaming and of sport is lost, children cease to play, and a person avoids as far as possible all bodily exertion. The mood of the individual affects the result. Thus, by special effort, one may overcome the sensation of fatigue for a certain number of days in order to accomplish a definite result, as does the soldier who advances by magnificent forced marches in anticipation of victory. But this is a very different matter in comparison with the accomplishment of work in the dull, monotonous daily grind of civilian life. During the war, certain Italian farm laborers, receiving 450 gm. of flour daily, accomplished their work. When this ration was cut to 250 gm., they refused to work. The same apathy is true as regards mental work. The love of accomplishment, the power of performance and the note of personal initiative, which under ordinary conditions increase the assimilation of food and favor muscular energy, are absent. As the

1. This and the following comments are reported in an illuminating paper by Lusk, Graham: The Physiological Effect of Undernutrition, Physiol. Rev. 1: 523 (Oct.) 1921.

mind becomes depressed, muscular movements become listless. Lusk relates that a Leipzig mathematician, to conserve his food requirement, remained in bed most of the day, doing his intellectual work there.

Similar physical reactions to undernutrition were reported by F. G. Benedict,[2] as the outcome of the experiments of the Boston Nutrition Laboratory of the Carnegie Institution on prolonged restricted diets in young men. But these were the results of voluntary and investigational procedures. One reads nowadays of the presumable widespread prevalence of malnutrition and undernutrition among American children, although much that is problematic remains to be elucidated before a perfect program of reform, or even an adequate conception of the possible defects, can be presented. It comes as somewhat of a surprise, however, to learn that actual undernourishment may be quite prevalent, not merely in early youth or where there are pangs of poverty, but also among older persons of intellectual attainment. Blunt and Bauer [3] of the University of Chicago have found no difficulty in selecting for study a group of American college women who were underweight by comparison with life insurance standards, and who were of a nervous type. Their basal metabolism, like that of some underweight women observed in the Boston Nutrition Laboratory, averaged almost normal. Their food consumption, however, was low, averaging only 1,830 calories, or 37.3 calories per kilogram. Nearly all of them ate less than 500 calories above their basal metabolism requirement. One cannot avoid the suspicion that many of the groups were hardly eating enough for their daily needs, and certainly not enough for any marked gain in weight. If this should prove to be a widespread situation, perhaps the problem of adequate nutrition, with its corollary of proper human ambition, is not confined to those groups alone about which concern has been expressed of late.

RAY LYMAN WILBUR, M.D.
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

2. Benedict, F. G.; Miles, W. R.; Roth, P., and Smith, H. M.: Human Vitality and Efficiency Under Prolonged Restricted Diet, Pub. 280, Carnegie Institution of Washington, 1919.

3. Blunt, K., and Bauer, V.: Basal Metabolism and Food Consumption of Underweight College Women, J. Home Econom. **14**: 226 (May) 1922.

Current Comment

RAY LYMAN WILBUR—PRESIDENT-ELECT

The selection of Dr. Ray Lyman Wilbur as president-elect of the American Medical Association brings to that high office a man whose record is conspicuous for many achievements, and who has commanded recognition in many activities for marked ability in organization and leadership. Dr. Wilbur was born in Boonesville, Iowa, April 13, 1875, and removed to California when a boy. He was graduated by the Riverside High School, and received his A.B. degree from Stanford University in 1896, and the A.M. degree the year following. In 1899 he received his medical degree from Cooper Medical College of San Francisco, which later became the medical department of Stanford University. Following his graduation, he became instructor of physiology in his Alma Mater from 1896 to 1897; lecturer and demonstrator in physiology, 1899 to 1900, and assistant professor of physiology, 1900 to 1903. At this time he went to Europe and continued his studies at Frankfort on the Main and in London. He returned to California to take up the practice of medicine in 1909 and in that year was appointed professor of medicine at Cooper Medical College. He retained his professorship in medicine and practiced his profession from 1909 to 1916, and was dean of the medical school of Stanford University during the last five years of his professorship, 1911 to 1916. Following the retirement of President David Starr Jordan of Stanford University in 1913, Professor John Casper Branner, head of the geology department, was made president, with the understanding that he would retire at sixty-five years of age, two years later; at that time, the latter part of 1915, the trustees of Stanford University, in recognition of his extraordinary administrative ability, selected Dr. Wilbur for the position of president. His work in this position has fully justified the choice. With the entrance of the United States into the World War, Dr. Wilbur was called by another Californian, Mr. Herbert Hoover, to assist in one of the fundamental activities necessary to a successful prosecution of the

conflict, as chief of the Conservation Division of the United States Food Administration. For this work, Dr. Wilbur has earned the gratitude of the entire civilized world. In 1919 he received the honorary degree of LL.D. from the University of California, and from the University of Arizona. At the 1920 Session of the American Medical Association, Dr. Wilbur was appointed to the Council on Medical Education and Hospitals, and in this work he has shown a thorough insight and sympathy with the problems of the practicing physician and with the problem of satisfactorily coordinating the work of the social agencies with that of the medical profession. Dr. Wilbur is a member of many scientific organizations; was president of the American Academy of Medicine, 1912 and 1913, and of the California Academy of Medicine, 1917 and 1918. By electing him to its presidency the American Medical Association has recognized a man typifying the highest ideals in medicine with a conspicuous gift for administration and leadership.

GALACTAGOGUES

The search for a substance that will promote the flow of milk is of long standing, like the quest of other so-called secretagogues. To the dairyman the possibilities of a successful galactagogue loom large; and it is obvious that effective measures for promoting lactation in the human species are not without interest to the medical profession. Many have been the false hopes, and varied the substances, which have been tried and found wanting. In several instances, an assumed galactagogic effect has been discovered, on careful examination, to be merely the outcome of a reaction of musculature within the mammary organ to some drug. Obviously, the mere expression or expulsion of preformed milk from the recesses of the glands, through contractions of unstriped muscles, is not equivalent to a true increased formation of milk. The total product secreted is not augmented, although the temporary discharge may be greater at some interval of measurement. Pituitary extracts, in particular, have been reputed to cause an actual increase of flow of milk from the mammary glands. In a recent reinvestigation of the subject, however, Rothlin, Plimmer and Husband[1] have demonstrated on lactating goats that pituitary extract produces a flow of milk only in the early stages of lactation. Its action is rapid and powerful, but of short duration. The flow (hypersecretion) is followed by a smaller quantity than normal (hyposecretion). The total volume of milk for each day is not altered, and the quality of the milk secreted is not altered. Incidentally, it may be noted that the secretory activity of the mammary gland is not influenced by the subcutaneous injection of epinephrin or ergamin, which act so readily on structures possessing a sympathetic innervation. Thus another of the many substances which have been vaunted as efficient agents for stimulating this important function fails to sustain the claims made for it; the true galactagogue remains to be found.

1. Rothlin, E.; Plimmer, R. H. A., and Husband, A. D.: Biochem. J. **16**: 3, 1922.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Illegal Practitioner Fined.—It is reported that Anulia Madden was recently convicted and fined $100 and costs, in the county circuit court, for practicing medicine without a license.

ARKANSAS

State Medical Meeting.—The forty-seventh annual meeting of the Arkansas Medical Society, the "home coming meeting," was held in Little Rock, May 17-19, under the presidency of Dr. Charles H. Cargile, Bentonville. The following officers were elected for the ensuing year: president, Dr. Robert Caldwell, Little Rock; first vice president, Dr. Ernest A. Purdum, Hot Springs; second vice president, Dr. Jefferson D. Southard, Fort Smith; third vice president, Dr. Lorenzo R. Evans, Mount Pleasant; treasurer, Dr. Robert L. Saxon, Little Rock, and secretary, Dr. William R. Bathurst, Little Rock (reelected). Hot Springs was chosen as the meeting place for 1923. By action of the council, financial aid and legal assistance were granted the state medical board in its fight against quacks.

CONNECTICUT

Connecticut State Medical Society.—The annual meeting of the society was held at Bridgeport, May 17-18, under the presidency of Dr. Charles C. Godfrey, Bridgeport. The following officers were elected for the ensuing year: Dr. David Russell Lyman, Wallingford, president; Drs. Samuel Pierson, Stamford, and Frederick Thomas Simpson, Hartford, vice presidents; Dr. Phineas H. Ingalls, Hartford, treasurer, and Dr. Charles W. Comfort, Jr., New Haven, secretary.

DISTRICT OF COLUMBIA

Interns' Reunion.—The third annual meeting of the Association of Former Interns of Freedmen's Hospital, Washington, will be held, June 6-8, under the presidency of Dr. Peter Marshall Murray, New York City. Dr. Walter Gray Crump, New York City, among others will give a special surgical clinic.

Rehabilitation Conference.—A conference on vocational rehabilitation was held in Washington, May 26-27, by the U. S. Veterans' Bureau. This conference was attended by educators, at least two from each of the fourteen districts in which the bureau operates, and by representatives from cooperation agencies and others interested in rehabilitating disabled ex-service men. The discussion covered the problems of rehabilitation, the policies of the bureau in training disabled men and securing their employment in gainful occupations, and the place of established educational institutions in providing this training. The opening address was given by C. R. Forbes, director of the bureau.

Committee Reports on Milk Distribution.—The House Committee on the District of Columbia has made a favorable report on the bill introduced by Congressman Focht, regulating the sale of milk within the District of Columbia. The purpose of the bill is to procure for the people of the District a pure and wholesome milk supply. All dairymen are placed under the control of the health officer of the District, who is authorized to seize all milk or cream which may violate numerous provisions of the bill designed to protect the public. Among the important provisions of the bill is the requirement that the holder of a dairy permit must report promptly to the health officer of the District all cases of communicable diseases occurring in any member of his family or hired help. Under present conditions, the District health department must wait until the presence of such a disease on a dairy farm is brought to its attention by an inspector or from other sources of information. Provision is made for the pasteurization of all milk and cream, except certified milk and raw milk of a certain quality. Such pasteurization must be done under regulations prescribed by the health officer and must be open to supervision by such official. Under present regulations, pasteurization is done without official supervision and without regulations. The measure contains other requirements for the protection of the milk supply of the District.

FLORIDA

Health News.—The Florida Public Health Association, in cooperation with the state board of health, has been holding a series of tuberculosis clinics in the state. The woman's clubs assisted in this work and the advisory nurse of the state public health association had charge of the clinics.——The bureau of communicable disease, under the direction of Dr. George A. Dame, Jacksonville, has organized a statewide campaign of education in regard to smallpox and vaccination. Motion pictures and lectures will be used by the district health officers to combat a very active antivaccination propaganda which has been carried on for some time in the state.——Through the efforts of Dr. Joseph K. Porter, Sr., city health officer of Key West, thousands of schoolchildren and others have recently been vaccinated, and it is stated that Key West is now practically immune to smallpox.

GEORGIA

Prenatal Clinic.—Plans have been made for the establishment of prenatal clinics for the training of mothers and the training and examination of midwives, in an effort to reduce infant and maternal mortality. These clinics will be established in several cities and counties of the state, under the auspices of the child welfare council. Dr. Thomas D. Walker, Macon, will have charge of the work in the Macon district.

ILLINOIS

Engraved Birth Certificates Being Issued.—In order to encourage more complete birth registration by stimulating public interest, the state department of public health has undertaken the task of mailing a handsome engraved certificate bearing the great seal of Illinois and the signature of the director of public health, to the parents of every child born in the state since Jan. 1, 1922.

Memorial to Dr. Robarts.—It is announced from St. Louis that the physicians of that city are considering the establishment of a permanent memorial to Dr. Heber Robarts, Belleville, who died, May 1, from burns sustained during experiments with radioactive substances. Dr. Robarts began experimenting with the roentgen ray twenty years ago, and continued his researches, although the loss of four fingers, one by one, warned him of approaching death through his work.

Hospital News.—A new hospital will be erected at Lockport at a cost of $175,000.——The contract has been let for the $35,000 addition to the Huber Memorial Hospital, Pana.——A campaign is being conducted to raise $250,000, by the board of directors of the Lutheran Hospital, Moline. The sum of $75,000 will be used for a 100 bed addition to the hospital at Moline, and the remainder will go to the Augustana Hospital, Chicago.——The new addition to the Hillsboro Hospital was recently opened.——Miss Schauber has been appointed superintendent at the Lake County General Hospital, Waukegan.——A new $125,000 hospital will be erected at Elmhurst.

Antismallpox Campaign in Peoria.—An antismallpox campaign, by the state department of public health, has been inaugurated in Peoria, where a lingering epidemic has hovered over a portion of the city since late in 1921. Three special nurses and two quarantine officers have been employed to make a house-to-house canvass over the affected area in order to ferret out all hidden and unreported cases. In every clear or suspected case that is found by these persons, the patient will be placed under quarantine until such time as medical men can make an examination and establish the control measures indicated by the findings. In addition, a free vaccination clinic with three physicians in charge has been opened by the county authorities. Over 1,000 vaccinations were performed at the clinic during the opening days.

Chicago

Community Trust Issues First Report.—The Chicago Community Trust contemplates a general survey of the urban institutional facilities for care of the sick and disabled. In a report of the first study, "Prenatal Care in Chicago," it is said that Chicago has twenty-eight prenatal stations, none of which are publicly conducted; all have been developed by various types of organizations. Not more than 10 per cent. of the women delivered each year in Chicago receive prenatal care by clinics or similar organizations. In 1920, in Chicago, midwives attended 15,816 births, private physicians attended 39,468, and twenty-nine births were unattended. In no case was it found that attending physicians of prenatal care clinics receive fees or a salary for that specific medical service.

INDIANA

Health Exposition.—The Indiana Health Exposition was formally opened, May 19, in Indianapolis, with air maneuvers and firing of guns by the artillery. This was followed by the unveiling of Hygiea, the goddess of health, a statue erected directly in front of the manufacturers' building. Dr. John N. Hurty, state health commissioner, presided, and handed the keys of the exposition to Dr. Everett E. Hodgin, president of the city board of health, as doorkeeper. Dr. Frederick D. Stricker, state health commissioner of Oregon, and Dr. Paul A. Turner, state health commissioner of Washington, gave addresses at the opening ceremonies. All the public schools declared a holiday, and more than 50,000 children attended the exhibition. Following a week of lectures, art, science and government exhibits, the exposition closed, May 27. This is the fifth exposition of this kind ever held in the United States, it is said, others having been held in Chicago, New York City, Cincinnati and Louisville.

IOWA

Honor for Physician.—A dinner was given at the Osceola Sanatorium recently for Dr. William O. Parrish to celebrate his eighty-third anniversary. Dr. Parrish served in the Civil War and marched with Sherman to the sea; he has been in practice for fifty-four years.

Hospital Notes.—Contracts for the erection of the Allen Memorial Hospital, Waterloo, have been awarded and work will begin at once. The institution will be built at a cost of approximately $115,000.—The new nurses' home of the Lutheran Hospital, Des Moines, which was erected at a cost of $250,000 was dedicated, April 30.

Women's Medical Meeting.—The State Society of Iowa Medical Women held their twenty-fifth annual meeting, May 9, at Des Moines, under the presidency of Dr. Josephine Wetmore Rust, Mason City. The following officers were elected for the ensuing year: president, Dr. Eppie S. McCrea, Eddyville; vice president, Dr. Jane D. Wright, Clear Lake; treasurer, Dr. Helen Johnston, Des Moines, and secretary, Dr. Julia F. Hill, Grinnell.

New Medical Laboratory.—The new medical laboratory, recently completed and opened at Oakdale, was filled to capacity within ten days from the opening. This laboratory is equipped with forty beds, in addition to offices for the staff, and reception and class rooms. It will be used in connection with the State Sanatorium for the Treatment of Tuberculosis. The institution is built in the shape of the letter "H" and is fitted with all modern improvements.

Child Welfare School.—The child welfare research station of the University of Iowa has opened an experimental school for the normal child between the ages of 2 and 4 years. Physical measurements of the child are made once a month and investigations are made as to heredity, home conditions and special characteristics of the families of the children, as a background for the psychologic findings. A new six-room building equipped with child-sized furniture has been opened. Dr. Bird T. Baldwin, director of the station, is in charge of the study.

KANSAS

University News.—Courses designed especially to meet the needs of the general practitioner who desires to become acquainted with recent advances in medical science will be given at the summer session of the Kansas University School of Medicine. Three courses will be offered in the department of medicine, by Drs. Russell L. Haden, Peter T. Bohan and Ralph H. Major. The department of pathology will offer courses in necropsy technic, tissue diagnosis and functional pathology. The only fee asked is the regular summer session fee of $10. The session will commence on June 12 and end on July 24.

KENTUCKY

Hospital News.—Excavation has been started for the construction of buildings to house the physiotherapy and occupational therapy departments at the government veterinary hospital, Dawson.——A new hospital, to be operated by the Evangelical churches of Louisville, will be erected in that city at a cost of $300,000.

MAINE

Personal.—Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, is seriously ill at his home in Portland. Dr. Adam P. Leighton, Jr., Portland, will act as secretary in his stead.——Dr. William L. Cousins, Portland, who has been ill for the past year, is undergoing treatment in Boston, and is improving.——Dr. Clarence L. Scamman, Portland, has been appointed superintendent of health of Providence, R. I., to succeed Dr. Charles V. Chapin.

MARYLAND

Tuberculosis Clinic Opened.—The health department of Baltimore has opened a tuberculosis clinic at Highlandtown, Baltimore, the fifth in the system. The clinic will be under the direction of Drs. John E. O'Neill, B. T. Baggott and Lyman S. Abbott.

Health Association Planned.—Plans for the formation of a public health association for Baltimore County were discussed recently by the medical profession, social workers, Red Cross nurses and others, at a meeting held at Towson recently. The meeting was held to work out a plan whereby the public health service conducted during the past two years by the Baltimore Chapter of the Red Cross can be carried on, the Red Cross discontinuing its work in September; and the proposed organization is to take over the work and consolidate all such work in the county. Addresses were made by Dr. W. A. Bridges, chairman of the committee; Dr. Allen W. Freeman, resident lecturer of the school of hygiene and public health; Dr. Josiah S. Bowen, state deputy health officer, and Dr. A. L. Wilkinson. The subject of tuberculosis was also discussed.

MASSACHUSETTS

Personal.—Dr. Richard M. Smith, instructor in pediatrics, Medical School of Harvard University, Boston, has been appointed assistant professor of child hygiene in the new school of public health.——Dr. Paul F. Butler, Boston, has been appointed city physician for the roentgen-ray service, to succeed Dr. Samuel Ellsworth. Dr. Alexander McMillan will succeed Dr. Butler.

Physician Becomes Missionary.—Dr. Harry J. Hill, New Bedford, has given up his practice and sailed for China, where he will work as a medical missionary. He will be stationed at Tsinchow, 80 miles east of Tsinanfu, and will be assisted in his work by the interns and native students of the Shantung Christian University School of Medicine, Tsinanfu, as there are no medical men stationed at Tsinchow at present. Dr. Hill will establish a 100-bed hospital, and Mrs. Hill will open a training school for nurses in connection with it.

Reorganization at Boston Dispensary.—Dr. William E. Chenery and Dr. Harry J. Inglis have been appointed surgeons-in-chief of the Boston Dispensary in the reorganization of the ear, nose and throat department, each to be head of an independent six months' service. Dr. Inglis has already assumed charge of his service and has the period from February to July, inclusive. The period from August to January will be taken by Dr. Chenery. Dr. Frederick C. Cobb, for the last thirty-five years a member of the staff, has been appointed consultant to the dispensary.

Research Fellowships.—A research fellowship of $1,000 for the study of orthopedics in relation to hygiene and physical education will be offered by Wellesley College, beginning in September and continuing for one year. General requirements are: good health; a bachelor's degree from a college or university of good standing; careful preparation in chemistry, physics and biology; special preparation in anatomy, kinesiology and physiology; familiarity with the elements of orthopedic theory and practice; and an insight into some one or more of the problems of orthopedics as related to hygiene and physical education.

Building of Harvard Cancer Commission.—The new laboratory building, erected by the Harvard Cancer Commission for the study of cancer and biophysics in Boston, was opened recently with appropriate exercises, in the amphitheater of the Harvard Medical School. This building adjoins the Huntingdon Memorial Hospital and will be known as the John Collins Warren Laboratory, in recognition of the services rendered to the university by Dr. Warren, former chairman of the cancer commission. In the basement of the new building a vault for the storage of the commission's radium is provided, together with the necessary pumps and apparatus for collecting and purifying the gaseous emanation from the radium solution. The first floor contains the reception and examination rooms for outpatients, together with the roentgen-ray laboratory for Professor Duane. Free diagnosis service will be maintained by the state department of health, under the supervision of Dr. James H. Wright. Material removed at surgical operations can be sent to the laboratory by any registered physician in Massachusetts, and a pathologic examination of the tissue will be made, with a report as to its nature, and returned without expense to the physician or his patient. Dr. Henry P. Wolcott, chairman of the cancer commission, and Dean David L. Edsall of the Harvard Medical School, who was the presiding officer, gave addresses at the ceremony.

MINNESOTA

Personal.—Dr. Charles E. Proshek, New Prague, has recently returned to the United States after serving three years with the American Red Cross in Russia, Poland, Greece and Montenegro.

Hospital Items.—The new surgical pavilion at St. Mary's Hospital, Rochester, has just been completed at a cost of more than $2,000,000.——The St. James Hospital and Sanatorium, St. James, has been sold to the Franciscan Sisters of Rochester. The building will be remodeled and a school for training nurses will be established.——A campaign has been initiated by the American Legion posts of Minnesota to raise $250,000 for an American Legion memorial hospital, to be built at Rochester.

MISSISSIPPI

Hospital News.—Appropriations have been made of $20,000 to be added to the $100,000 fund for the erection of a hospital at Beauvoir.—Arrangements have been made for the erection of a neuropsychiatric hospital for veterans of the World War, who are residents of Mississippi, on the grounds of the East Mississippi Insane Hospital, Meridian. This institution will be erected at a cost of about $60,000 and will be arranged to provide vocational training for the ex-service men.——The new hospital of the King's Daughters, recently erected at Gulfport at a cost of $105,000, was dedicated, May 12, by the Rev. H. H. Sneed.

MISSOURI

Memorial to Dr. Fitzsimmons.—A fountain erected to the memory of Lieut. William T. Fitzsimmons, Kansas City, who was killed in France in 1917 by the explosion of a German bomb, was dedicated by the American Legion at Kansas City, May 30. More than $3,000 has been subscribed by public donations for the erection of the William T. Fitzsimmons monument. The Jackson County Medical Society participated in the ceremony.

Hospital News.—The board of hospitals and homes of the American White Cross of the Methodist Episcopal Church is conducting a campaign to raise $175,000 for the hospital building being erected at St. Joseph.——The cornerstone of the Fitzgibbon Memorial Hospital, to be erected at Marshall, was laid by the Masons of the Grand Lodge, May 11. The fund for this institution was derived from the gift of his entire estate by the will of Mr. Fitzgibbon, valued at $160,000. An endowment of $50,000 was stipulated in the terms of the bequest.

NEBRASKA

University News.—The University of Nebraska College of Medicine and Hospital, Omaha, announces the third annual graduate course for practitioners at the University Hospital, June 19-30, inclusive. This course will consist of practical intensive work covering important advances in medicine, surgery, diagnosis, etc. Registration is open to all legally qualified practitioners of medicine, and application for registration should reach the medical school on or before June 15. The fee is $40.——A laboratory course in operative technic and operative procedures will be offered at the university, July 3, immediately following the practitioners' graduate course. The course will consist of practical exercises in asepsis, management of the operating room, principles governing sterile field, instruments, ligatures, methods of closure, etc. Gloves, gowns, instruments and dressings will be supplied; free, $25.

NEW HAMPSHIRE

State Medical Meeting.—At the one hundred and thirty-first annual meeting of the New Hampshire Medical Society held in Concord, May 17-18, under the presidency of Dr.

Charles S. Walker, Keene, the following officers were elected for the ensuing year: president, Dr. Herbert L. Smith, Nashua; vice president, Dr. Howard N. Kingsford, Hanover, and secretary, Dr. Dennis E. Sullivan, Concord. It was advocated that the four year medical course be restored at Dartmouth Medical School, Hanover, or that the school be moved to Manchester on account of the superior hospital facilities there. Action was deferred until the next annual meeting.

NEW YORK

Brooklyn Ophthalmological Society.—At a meeting of the Medical Society of the County of Kings, May 9, in Brooklyn, the Brooklyn Ophthalmological Society was organized with the following officers: president, Dr. Joseph E. Golding; vice president, Dr. Ralph I. Lloyd, and secretary-treasurer, Dr. Willis M. Gardner. Membership is limited to oculists resident on Long Island.

Associated Outpatient Clinics.—The section on Pediatrics of the clinics, which in 1914 adopted standards for Class A, B and C clinics, was reorganized May 10, with the following officers: chairman, Dr. Roger H. Dennett; vice chairman, Dr. William P. St. Lawrence, and executive secretary, Dr. Gertrude E. Sturges. A demonstration pediatric clinic was proposed as a method of stimulating the improvement of pediatric clinics.

Mental Hygiene Lectures.—The mental hygiene committee of the state charities aid association has obtained the voluntary services of thirty-one psychiatrists and other authorities on mental hygiene for public addresses in an effort to demonstrate to the citizens of New York how to preserve mental health. Speakers are available on application to Mr. S. P. Davies, secretary of the committee, 105 East Twenty-Second Street, New York City.

Chiropractor Convicted.—It is announced by the secretary of the board of medical examiners of the University of the State of New York that Alfred J. Newman, president of the New York State College of Chiropractic, was convicted in the court of special sessions recently for violation of Section 66 of the education law. It was stated that Newman held himself out as issuing degrees and diplomas without the consent of the board of regents, for which he was fined $250. On the same day, the Metropolitan Institute of Chiropractic, a Delaware corporation, pleaded guilty to violation of the same section, and was fined $250. Three other similar cases were adjourned to June 9.

Information Bureau for American Hospital of Paris.—The board of governors of the American Hospital of Paris has appointed Miss Annie Flint of New York to organize a bureau of information in the United States. Miss Flint will organize small committees under prominent local chairmen in the chief cities of America, with headquarters in New York. The present hospital building in Paris is inadequate to meet the needs of the American public in Europe. It has been decided that a complete new hospital of 100 beds must be built. The funds in hand are sufficient to begin work on the new structure, 12,000,000 of the 18,000,000 francs required for the new hospital having been subscribed. There are still 5,000,000 francs for buildings and 1,000,000 francs for endowment to be obtained. When the necessary funds have been subscribed, no further appeals for maintenance will be made, as the hospital will be self-supporting.

NORTH CAROLINA

Appropriations for Health Campaign.—The board of county commissioners at a meeting in Raleigh, May 1, adopted a health budget for the ensuing year which carries $38,838 for health work and $6,850 for mosquito control. The county government will pay one half of the mosquito control appropriation and the city the other half. The city will also pay 75 per cent. of the health budget.

OHIO

Physician Fined.—It is reported that Dr. Lot H. Hughes, Dennison, was fined $400, April 27, when he pleaded guilty to a charge of violating the Harrison Narcotic Law.

Public Health Course.—The Ohio Department of Health is conducting a correspondence course in public health for health commissioners under the supervision of Dr. Emery R. Hayhurst and Dr. Frank G. Bourdeau.

Hospital News.—Plans have been drawn for the $250,000 addition to the Cleveland Municipal Tuberculosis Sanatorium, Warrensville.——An addition for tuberculous patients will be erected at the Middletown Hospital at a cost of $25,000. ——The new municipal hospital at Youngstown is nearly completed and will be turned over to the city.

Rehabilitation Week.—All members of the Ohio State Medical Association were supplied with forms for the purpose of reporting during the week, May 8-13, known as Rehabilitation Week, the names, addresses and nature of impairment of any disabled citizen of Ohio, over 16 years of age, who might be interested in vocational training enabling one to become self-supporting. State and federal funds will be available to meet the cost of tuition, tools, books and supplies for those for whom training is deemed necessary and feasible. This week was also Crippled Children's Week throughout the state. Forty-four clinics were held, and nearly 3,000 children were examined. The governor issued a special proclamation calling on the people of the state to observe the week. He stated that there were practically 15,000 crippled and deformed children in Ohio who had not had the necessary treatment.

PENNSYLVANIA

Personal.—Dr. Catharine Macfarlane has been appointed professor of gynecology at the Woman's Medical College of Pennsylvania, Philadelphia, to succeed the late Dr. Ella B. Everitt. By this appointment, Dr. Macfarlane becomes gynecologist-in-chief at the hospital of the Woman's Medical College of Pennsylvania.

Philadelphia

Building at Jefferson Hospital.—Contract for the construction of the new $1,500,000 building to be added to the Jefferson Hospital has been awarded to the Stone & Webster Construction Company. Work will begin shortly. John T. Windrim is the architect. The new structure will stand on the site of the present nurses' home. It will contain several laboratories, equipped with the most modern appliances, and there will be accommodations for 150 nurses. Plans have been made to begin demolition of the properties at Clifton, Sansom and Moravian streets, June 15, to make way for the new building. It will be of brick, steel, stone and concrete, fireproof construction, and it is hoped by the builders that they will have it completed in a year.

Celebration in Philadelphia of the Centenary of Pasteur.—The medical profession and allied scientific bodies of Philadelphia are arranging for a notable celebration of the centenary of Pasteur's birth on December 27. Distinguished scientists from different parts of the country will be invited to participate. The French government has also signified its intention to send a representative. There is no event in medical history which should enlist the attention and recognition of the whole profession more than this to honor the man whose work and discoveries have recreated medicine and placed the study of disease on a real scientific basis, giving rise to our present new era in medicine and its marvelous development.

RHODE ISLAND

Memorial to Physician.—A bronze tablet to the memory of Asst. Surg. William Henry Buffum, Lieut., U. S. Navy, Providence, who died in the World War, was unveiled, May 20, at the Rhode Island Medical Library, Providence, with impressive exercises, presided over by Dr. Hammond. The tablet was erected by associates of Dr. Buffum in the Rhode Island Naval Hospital Unit, and was accepted on behalf of the Rhode Island Medical Association by Dr. George S. Mathews, president of the association. The Rev. Dr. Sturges gave an address.

SOUTH CAROLINA

Clinic for Veterans.—The first clinic for ex-service men in the state of South Carolina will be established by the government at Columbia, and will be opened about July 1. Dr. Robert B. Durham, Columbia, will have charge of the clinic, which will employ a staff of twenty men, including ten full-time physicians. The clinic will be fitted with modern medical and dental improvements, and will be equipped with a roentgen-ray room.

TEXAS

Hospital Association Organized.—The state board of control issued a call for a general meeting of the superintendents of the Texas state hospitals, May 4. The meeting was held at the State Lunatic Asylum, Austin. After discussion of the benefits to be derived from a permanent association composed of the superintendents of the various institutions, it

was decided to organize the Association of Superintendents of State Hospitals and Sanatoriums. Dr. John Preston, Austin, was elected president of the association and Dr. John W. Bradford, Austin, secretary. This organization will meet quarterly at the various institutions in rotation, the next meeting to be held at the Northwest Texas Hospital for the Insane, Wichita Falls, August 8-9.

UTAH

Ophthalmologic Session.—The tenth annual session of the Pacific Coast Oto-Ophthalmological Society will be held in Salt Lake City, September 14-16, the week preceding the meeting of the American Academy of Ophthalmology and Oto-Laryngology at Minneapolis, September 19-21. Members of the society who desire to contribute to the session are requested to notify Dr. Edward D. LeCompte, Salt Lake City at an early date. Members who have pathologic specimens or other exhibits of interest are requested to communicate with the secretary.

WASHINGTON

Memorial to Nurses.—Trees were recently planted on the Memorial Highway between Tacoma and Seattle, to perpetuate the names of eight Seattle nurses who lost their lives in the World War.

WEST VIRGINIA

State Medical Meeting.—The fifty-fifth annual session of the West Virginia State Medical Association was held at Huntington, May 17-19, under the presidency of Dr. James Howard Anderson, Marytown. The following officers were elected for the ensuing year: Dr. John N. Simpson, dean of the West Virginia University School of Medicine, Morgantown, president; Dr. Robert J. Wilkinson, Huntington; Dr. Henry H. Hall, Wheeling, and Dr. Walter E. Vest, Huntington, vice presidents; Dr. Robert A. Ashworth, Moundsville, secretary (reelected), and Dr. Hugh G. Nicholson, Charleston, treasurer (reelected).

WISCONSIN

Right of Way for Physicians.—At a meeting of the Milwaukee Medical Society, May 12, it was decided that a bill and proposed ordinance providing that city speed and parking laws be amended to allow physicians to have right of way privileges on emergency calls should be drafted and sent to the state legislature. Dr. Darling stated that the proposed bill would go to the state legislature with the sanction of police officials and the city attorney. The committee will urge the Chicago plan, which provides that physicians must register and secure car and vest badges from the police department.

CANADA

The Canadian Radiological Society.—This society announces that it has established a consultation bureau where any and all questions pertaining to roentgen-ray and radium may be submitted for information, suggestions or advice. This will be done entirely without charge.

Personal.—Dr. Norman MacLeod Harris has been appointed chief of the division of medical research of the Canadian Dominion Department of Health.——Dr. Thomas E. P. Gocher, Vancouver, B. C., has been elected president of the North Vancouver Army and Navy Veterans' Association.——Dr. Robert H. Mullin, Vancouver, was recently reelected chairman of the public health bureau of the board of trade for Vancouver.——Dr. John Nay, Trail, B. C., has been appointed assistant medical advisor to the Workman's Compensation Board of British Columbia.

Medical Association News.—The Medical Council for Canada announces its examinations for June 13, at Toronto, Winnipeg and Vancouver.——The Peterboro, Ont., medical society met, March 2, at Peterboro. Dr. R. L. Hess of Hamilton, discussed "The Interpretation of Roentgen Ray Findings in the Gastro-Intestinal Tract."——The Stormount and Glengarry County Medical Society met at Cornwall, March 22. The meeting was addressed by Dr. Gwynne.——The Hamilton Medical Society met recently at Hamilton, Ont. Dr. L. J. Austin of Kingston, Ont., presented an outline of "The Pathology, Diagnosis and Treatment of Genito-Urinary Tuberculosis, with Special Reference to the Kidney."

Hospital News.—The new wing of the Trinity College School Hospital, Port Hope, Ont., erected by Mrs. Patterson in memory of her husband, was recently opened. Archdeacon Ingles conducted the dedication.——All babies born during the last five years at the Women's College Hospital, Toronto, were invited to a reception there recently. A baby contest was held, and Dr. Allen Brown, Toronto, was the judge.——St. Michael's Hospital, Toronto, observed National Hospital Day by throwing the hospital open to the public for three hours.——The Rosedale Presbyterian Church Hospital Circle, Toronto, announces the gift of a hospital unit, to be established at Matheson, Ont. This unit will supply nursing and community service in the Matheson district.

GENERAL

Congress of Physicians and Surgeons of North America.—At the annual meeting of this organization, the following officers were elected: Dr. Frank Billings, Chicago, president; Dr. Francis W. Peabody, Boston, treasurer, and Dr. Walter R. Steiner, Hartford, Conn., secretary.

American Laryngological, Rhinological and Otological Society.—This society at the annual meeting held in Washington, D. C., May 4-6, elected Dr. Dunbar Roy, Atlanta, Ga., president; Dr. William H. Haskin, New York, secretary, and Dr. Ewing W. Day, Pittsburgh, treasurer.

American Ophthalmological Society.—At the annual meeting held in Washington, May 1-3, the following officers were elected for the ensuing year: president, Dr. William H. Wilmer, Washington, D. C.; vice president, Dr. Alexander Duane, New York, and secretary-treasurer, Dr. Thomas B. Holloway, Philadelphia.

New Officers of Bronchoscopic Society.—The following officers of the American Bronchoscopic Society were elected at the recent session held in Washington, D. C.: president, Dr. Samuel Iglauer, Cincinnati; vice president, Dr. Charles J. Imperatori, New York City, and secretary-treasurer, Dr. William B. Chamberlain, Cleveland.

Double Honor to President de Schweinitz.—Dr. George E. de Schweinitz, President of the American Medical Association, has accepted the invitation to deliver the Bowman Lecture in London, in 1923. This is a distinguished honor to American ophthalmology. He was also honored recently by promotion to brigadier general in the Medical Reserve Corps.

American Association of Genito-Urinary Surgeons Elect.—At the thirty-fourth annual meeting of the association held in Washington, D. C., May 2-3, the following officers were elected for the ensuing year: president, Dr. William E. Lower, Cleveland; vice president, Dr. Richard F. O'Neil, Boston, and secretary-treasurer, Dr. Henry G. Bugbee, New York City.

American Association of Pathologists and Bacteriologists.—At the annual meeting of this society held in Washington, D. C., May 2-4, the following officers were elected for the ensuing year: president, Dr. Paul A. Lewis, Philadelphia; vice president, Dr. James Ewing, New York; treasurer, Dr. Frank B. Mallory, Boston, and secretary, Dr. Howard T. Karsner, Cleveland.

American Climatological and Clinical Association.—At the annual meeting held in Washington, D. C., May 2-4, Dr. Charles W. Richardson, Washington, was elected president; Drs. George W. Norris, Philadelphia, and Will Howard Swan, Colorado Springs, Colo., vice presidents; Dr. Cleaveland Floyd, Boston, recorder, and Dr. Arthur K. Stone, Framingham, Mass., secretary-treasurer.

Central Neuropsychiatric Society Organized.—This society was organized in St. Louis on May 23. The purpose is to hold annual meetings in the Middle West, the programs to be clinical and furnished entirely by the members residing at the place where the meeting is held. Officers elected were, president, Peter Bassoe, Chicago; vice president, A. S. Hamilton, Minneapolis; secretary-treasurer, Karl A. Menninger, Topeka, Kan.; member of council, Ernest Sachs, St. Louis.

Radium for Madame Curie.—From the fund collected by the women of America to present 1 gm. of radium to Madame Curie, there yet remains about 50,000, the annual income from which will be given to Madame Curie. Approximately $110,000 was expended for the gram of radium. The chargé d'affaires of Belgium sailed on the *Homeric*, May 6, with a gift to Madame Curie from friends in America, consisting of two instruments for testing radium, a galvanometer and an assay balance, which are manufactured only in this country. When here last year, Madame Curie stated that they were what she needed in experimental work.

Specially Denatured Alcohol for Bathing.—The following formula, to be known as specially denatured alcohol Formula

No. 46, has been authorized by the Commission of Internal Revenue for use as antiseptic, sterilizing and bathing alcohol for use by visiting nurse associations, public nursing associations, clinics and dispensaries, exclusively. To every 100 gallons of pure ethyl alcohol add 25 fluidounces phenol, U. S. P.; 4 fluidounces oil of wintergreen or methyl salicylate, U. S. P. This formula, the commissioner states, will only be authorized for use by institutions and organizations named above which are of a semipublic character and engaged in charitable work.

Proposed Legislation on Decimal System of Weights and Measures.—Representative Colton has presented a bill to Congress providing for the establishment of a new standard for the decimal system of weights of measurements. In this proposed act, the standard weight is fixed as the weight of a cubic foot of water at maximum density; the standard ounce as a thousandth part of the standard weight or the weight of the decimal cube of water at maximum density; the mark as 10 ounces and the stone as 100 ounces. The decimal graduations of the ounce are fixed at a tenth, which shall be designated as the dram: the hundredth, which shall be designated as the carat; and the thousandth, which shall be designated as the standard grain. The tenth of the standard grain is denoted as the mite.

LATIN AMERICA

Branch of Cruz Institute in Northern Brazil.—The cornerstone has just been laid for a branch of the Instituto Oswaldo Cruz in the state of Maranhão. Dr. Cassio de Miranda delivered the address at the ceremony.

Mexico Will Not Recognize Foreign Degrees.—The Central University of Mexico, which is entrusted with the revalidation of foreign diplomas, has announced that hereafter, in order to prevent abuses by quacks, no foreign diplomas will be recognized. Physicians graduated in foreign countries will have to submit to a new and complete examination in order to have their degrees recognized in Mexico.

Cancer Institute at Buenos Aires.—The *Semana Médica* describes the inauguration of the Instituto del Cancer, April 19. Dr. Angel H. Roffo is in charge, and the institution is a model, the peer of the best in other countries. Roffo's pioneer work in experimental cancer inspired the Academy of Medicine in 1912 to initiate the movement for a cancer institute, and it has now been carried to its successful completion by the work of committees and private individuals.

Death Rates in Cuba.—According to a recent article by Dr. J. Le Roy of Havana, the death rate of Cuba has shown a downward trend since 1900. In that year the death rate per thousand was 17.82 for the whole of Cuba, and 24.77 for Havana. In 1919, the death rate was 14.3 and 21.06, respectively. The lowest figures in the whole period are those of 1912: 12.96 for Cuba and 18.10 for Havana. In Havana, the death rate rose to 24.2 in 1920. All communicable diseases show a similar decrease, yellow fever, malaria and tetanus showing decreases from 12.41, 13.02, and 7.65, in 1900, to 0.0, 0.54, and 0.52, respectively. The only disease that seems to hold its own is typhoid fever, with a death rate of 3.66 in 1900, and 4.15 in 1921.

New Director of the Medical School of São Paulo.—Dr. Celestino Bourroul has recently taken his position as director of the School of Medicine and Surgery of São Paulo. In his inaugural speech, Professor Bourroul called attention to the great assistance rendered by the Rockefeller Foundation, through Drs. Pearce and Russell, in the reorganization of the school and in the foundation of the public health institute connected with it. The school is at present handicapped through lack of appropriate buildings, as those so far available are only the public health institute building and one unfinished pavilion for the teaching of legal medicine. Some gifts have already been received for the construction of hospital pavilions for pediatrics, orthopedics and gynecology.

Centennial of Academy of Medicine at Buenos Aires.—The *Prensa Médica* brings full details of the celebration of the centennial of the foundation of the Academia Nacional de Medicina at Buenos Aires, April 18. The rector of the university, Dr. José Arce, presided. The historical address was delivered by the president of the academy, Dr. Eliseo Canton. Among the announcements made was that of the institute of experimental medicine, the first of its kind to be founded in South America. A prize of a gold medal and $5,000 was awarded to Dr. P. Belou for his "Stereoscopic Atlas of the Anatomy of the Ear"; a silver medal and $3,000 to Dr. C. Lagos García for his work, "Human Sexual Malformations," and a copper medal and $2,000 to Dr. F. Garzón Maceda for his "Manual of Zoopharmacy." A work by Dr. P. P. Rojas on the structure of the myocardium also received honorable mention. Three days were devoted to the centennial ceremonies.

FOREIGN

Embryology Institute at Vienna.—The new Embryology Institute of the University of Vienna was inaugurated, March 11.

Italian Medical Women's Association.—This association was recently organized with Dr. M. Carcupino Ferrari, Salsomaggiore, Parma, as president of the association and Dr. Clelia Lollini, Rome, foreign secretary.

University Courses on Sexual Hygiene.—An exchange mentions that Professor Jessner, the dermatologist and syphilologist of the University of Königsberg, has been entrusted with a course of lectures on sexual hygiene and the education of the sexes. A similar chair has also been founded at Prague.

Tribute to Perroncito.—Dr. E. Perroncito, professor of parasitology at the University of Turin, who discovered that the ankylostoma was responsible for the anemia of the miners employed in the St. Gothard tunnel, and made other contributions to science, has reached the age limit and his friends are organizing a celebration in his honor. The *Policlinico* states that subscriptions are being received by the Perroncito Committee, via Nizza 52, Turin, Italy.

Prize to Rossi.—The Garibaldi Franco-Italian prize offered by the French Surgical Society was awarded to Dr. F. Rossi, instructor in the University of Bologna, for his recently published work, "War Wounds of the Thorax." Twenty other Italian surgeons competed for the prize, and "War Wounds of the Abdomen," by Dr. E. Santoro of Naples, and "War Wounds of Bones and Joints," by Dr. L. Eustachio of Pisa were among those given honorable mention.

Visit of Professor Krogh.—Dr. August Krogh of Copenhagen plans to visit the United States next fall, and will be accompanied by his wife, Dr. Marie Krogh, whose name is also well known to science. His discovery of the independent motor function of the capillary circulation and his research on the respiratory gas interchanges won him the Nobel prize in medicine in 1920. He had previously received the Austrian Seegen prize.

Pathologic Lectures.—A course of eight lectures on pathologic research in its relation to medicine will be given during the summer session at the Institute of Pathology and Research, St. Mary's Hospital, London. These lectures are free to members of the medical profession and to students. The first of the series was given by Sir Almroth Wright on "New Avenues in Immunization," and Sir Archibald Garrod, regius professor of medicine, University of Oxford, spoke on "More Inborn Errors of Metabolism," May 4.

Approaching Medical Meetings in Paris.—The Seventh Medicolegal Congress, May 29; the Bayle Centennial, May 30; the Neurologic Reunion, June 2; the Mental Hygiene Conference, June 1; the French Dermatologists' and Syphilologists' Congress, June 6; the International Conference to Combat Infant Mortality, July 6; the Fifth French Pediatricians' Congress, July 10; the French Otolaryngology Congress July 17, followed July 19 by the International Otorhinolaryngology Congress; in October, the French surgical, medical, orthopedic and urologic congresses.

International Conference Against Tuberculosis.—Our Brussels exchange, the *Scalpel*, brings the details of the Third International Conference on Tuberculosis which is to be held at Brussels, July 11 to 13. More than forty nations are to send delegates, and trips are to be made to the principal institutions for the tuberculous in Belgium. The three subjects appointed for discussion are prophylaxis in children before and during school age; prophylaxis in families by visiting nurses, and work for the tuberculous during and after treatment. Calmette is to present the immunity question.

Medical Relief in Russia.—Dr. Henry Beeuwkes recently sent in a report of his scheme of medical relief administration in Russia. A complete survey of health conditions and hospital facilities was made and a relief plan drawn up which is already operating in Moscow, Petrograd, Kazan, Simbirsh, Samara, Saratov, Tzaritzin, Ufa and Orenburg. Dr. Beeuwkes states that the medical profession of Russia deserves admiration and assistance, a large percentage having died from epidemic diseases to which they have been constantly exposed. The mortality rate among physicians

from typhus is reported to be 50 per cent. as against 15 per cent. of the general population.

The "Consultation."—A new quarterly has been founded at Paris, *La Consultation*, which aims to give specialist consultations to the general practitioner, keeping him posted in the progress realized in the different specialties. Nine specialties are represented on the editorial staff, and questions will be answered. The forty-seven pages of the first issue contain articles on the most suitable age for surgical correction of congenital malformations; early diagnosis of glaucoma; preparation of autogenous vaccines; radiotherapy in tuberculosis, and treatment of epilepsy and of syphilis. A long list is given of subjects to be treated in following numbers, and suggestions are asked for. The address is 36 Rue Washington, Paris, and the subscription price is 6 francs a year. Dr. Robert-Leroux is the editor.

Personal.—A banquet was recently tendered Prof. L. Devoto, director of the Clinica delle Malattie Professionali at Milan, on the occasion of his election to the Instituto Lombardo di Scienze e Lettere.——Dr. J. J. Mostajo, a Peruvian surgeon, has arrived in London from Lima. Dr. Mostajo, who is at the head of the movement in Peru for the investigation of cancer, has been appointed by the Peruvian government to study the organization and progress of cancer research in Europe and in the United States.——Prof. J. L. Faure of Paris has been lecturing at Liége on abdominal hysterectomy, and Prof. R. Picqué of Bordeaux, on surgical anatomy. Both were film lectures. Prof. Balthazard of Paris lectured further on carbon monoxid poisoning, giving ten free lectures on the different aspects of this poisoning.——Dr. W. Roux, professor of anatomy at Halle, has been elected an honorary member of the Academy of Medicine at Turin, Italy.

Franco-American Anticancer League.—The *Presse Médicale* reports the meeting recently held at Paris of the Ligue Franco-Anglo-Americaine Contre le Cancer. The minister of hygiene presided. The president of the league is Justin Godard, formerly the undersecretary of state for the military medical department, and Professors Mark Baldwin, Hartmann and Sir John Pilter are vice presidents. There is a large committee of *visiteuses* who devote their efforts to educating the public and ameliorating the fate of cancer victims. The secretary of the league, M. R. Le Bret, spoke in particular of the necessity for better hospital provisions for incurable cases of cancer. Ledoux-Lebard emphasized the advantages of keeping the Coolidge tube immersed in oil in a lead receptacle. This does away with all danger for the environment. Treatment of operable cancer, he said, should consist of preliminary raying, then the operation, and then postoperative raying. Lymphosarcomas and mediastinal tumors may yield to the radiotherapy alone.

Deaths in Other Countries

Dr. **Anna K. Pedersen,** physician to the Vördingborg Hospital for the insane in Denmark, aged 50.——Dr. **V. Nicolai,** instructor in otolaryngology at the University of Pavia.——Dr. **A. Tabosky,** of Caracas, founder of the Caracas Medical Society, of which the *Revista de Medicina y Cirugía* is the official organ.——Dr. **T. Peckolt,** an otolaryngologist of Rio de Janeiro.——Dr. **W. Smitt,** director of the state institute for physiotherapy, etc., at Dresden.——Dr. **H. Heineke,** director of the surgical clinic of the University of Leipzig, aged 49.——Dr. **A. Del Monte,** professor of ophthalmology at the University of Naples.——Dr. **M. Kroner,** of Berlin, aged 82.——Dr. **G. Ninni,** instructor in surgery at the University of Naples, and president of the Associazione dei Medici Ospedalieri, aged 58.——Dr. **L. Farkas,** a leading Hungarian physician, surgeon and hygienist, secretary of the Hungarian Red Cross from 1901 to 1922, and delegate from Hungary to various international medical congresses, aged 74.——Dr. **G. Fabbri,** chief of the medical service of the Italian railroads and leader in the campaign against malaria.——Dr. **Hugh E. Fraser,** for twenty-five years medical superintendent of Dundee Royal Infirmary, Scotland, April 20, aged 59.——**Col. Francis Warburton Begbie,** in command of base hospitals in Mesopotamia and France during the late war, April 25, aged 58, at Exmouth, England.

CORRECTION

Congress of Physicians.—In a report of this Congress, THE JOURNAL, May 20, page 1568, Dr. A. F. Hess, New York City, is reported to have said that "about 75 per cent. of breast-fed infants show more or less tendency to rickets in some form." Dr. Hess writes that the word "breast-fed" should read "bottle-fed."

Government Services

New Hospitals for Veterans' Bureau

President Harding has approved plans for the construction of eight new hospitals by the U. S. Veterans' Bureau out of the $17,000,000 recently appropriated by Congress after recommendations by Chairman Forbes and the hospitalization board. The hospitals whose construction has been approved by the president will be located in Northampton, Mass.; in Livermore, Calif.; at Camp Lewis, Washington; in New York state (two hospitals, one within fifty miles of the city and another in the Adirondack section); in Gulfport, Miss., and in the tenth district of the U. S. Veterans' Bureau, including the states of Montana, the Dakotas and Minnesota. The national executive also approved the purchase of a hospital at Memphis, Tenn. Bids for the new institution will be received within the next ninety days and the work will be pushed to rapid completion. Government agencies will not attempt the actual construction, but all contracts let to private contractors will contain a clause giving preference in employment to ex-service men.

Reconstruction at Wards Island

A reconstruction program has been outlined by the educational director at Wards Island, N. Y., to benefit both the patients who can be cured and those in whom deterioration can be arrested, and the type that will always be a public charge and in an institution of this sort. The patient is first started in the occupational therapy department, attending classes two or three hours daily, and then is sent to the prevocational school and later, when advanced in his work, to the vocational departments. After he has shown that he is capable of being trusted, and he shows proficiency in his work, he is paroled to his home. If this cannot be arranged, he is transferred from the vocational shop, given a ground parole for the island and assigned to one of the trade shops. Since the inauguration of this system, the enrolment has tripled in five months. Fifteen patients have been paroled from the hospital and none have had to be returned.

Senate Concurs on New Pay Bill

The Senate concurred, May 22, in the House bill providing the establishment of a new system of pay and allowances for the Army, Navy, U. S. Public Health Service and other bureaus of the government. This new pay bill goes into effect, July 1, and affects the pay of the enlisted as well as the commissioned personnel of these services. It was originally drawn up by a special committee appointed by both houses of Congress which sat in joint session. Outside of a few minor amendments, with reference to computing pay and allowances of National Guard officers, the bill as originally drawn passed both the Senate and the House. One of the amendments provided that National Guard officers entering or now serving in the regular army should receive credit for their service in the National Guard to the extent of one half. Enactment of this measure is of utmost importance to medical officers of the Army, Navy and U. S. Public Health Service, since its failure to pass would have resulted in these officers receiving pay on a scale provided in the old 1908 law.

Hospital for Disabled in Wisconsin

Announcement by Col. Charles R. Forbes, director of the U. S. Veterans' Bureau, has been made to the effect that the State of Wisconsin has under construction a new $250,000 hospital, to be used exclusively for the treatment of disabled war veterans suffering with mental diseases. The name of the institution is the Wisconsin Memorial Hospital. It will occupy a site of fifty-four acres at Farwell's Point, about five miles from Madison, and will be under the direction of Dr. Lorenz, psychiatrist, who is also in charge of the Wisconsin Institute of Psychiatry, Farwell's Point. The new hospital will consist of ten separate one-story buildings. As soon as a sufficient number of the structures are ready for

occupancy, 158 patients of the U. S. Veterans' Bureau will be transferred to the Wisconsin Memorial from the Wisconsin State Hospital for the Insane and the Wisconsin Institute of Psychiatry. The memorial hospital will be maintained on a contract basis, the Veterans' Bureau providing funds for the care of its beneficiaries. The latest equipment for hydrotherapy treatments will be installed and all appurtenances for the investigation and diagnosis of mental cases. The staff of doctors and nurses will be supplied by the state of Wisconsin.

Veterans' Bureau Asks Transfer of U. S. P. H. S. Funds

A letter sent to the Senate by the director of the U. S. Veterans' Bureau asks for legislation giving him authority to transfer funds appropriated by Congress to the U. S. Public Health Service, to be used in payment of the personnel of the health service now on duty with the Veterans' Bureau in various government hospitals for the treatment of disabled war veterans. Recently, all of these hospitals originally under the jurisdiction of the U. S. Public Health Service and being operated by U. S. Public Health Service surgeons and employees were transferred by an executive order of the president of the U. S. Veterans' Bureau. The Veterans' Bureau planned to pay these U. S. Health Service surgeons and employees out of its own funds, but this had proved impracticable, and the present plan is to have the U. S. Public Health Service continue to pay them.

Government Needs Aides in Rehabilitation of Disabled Veterans

The United States Civil Service Commission states that there is urgent need at hospitals of the United States Public Health Service and establishments of the United States Veterans' Bureau for reconstruction aides in physiotherapy and occupational therapy in connection with the rehabilitation of disabled soldiers, sailors and marines. The commission will receive applications for these positions until further notice. Applicants are not required to report for a written examination, but are rated on the subjects of education, training experience and physical ability.

Foreign Letters

PARIS

(From Our Regular Correspondent)

May 12, 1922.

Swimming-Pool Conjunctivitis

Drs. J. Chaillous and Nida recently directed the attention of the Société d'ophthalmologie of Paris to an acute follicular conjunctivitis observed in several persons frequenting a municipal swimming pool in Paris. The affection is characterized by a swelling of the eyelids; by the sensation of sand in the eyes; hyperemia of the bulbar conjunctiva; intense redness of the palpebral conjunctiva and culdesac; thickening of the mucous membrane, which has a follicular aspect, and presence of a preauricular ganglion, sometimes painful. Although this form of conjunctivitis is not so serious as granular conjunctivitis, it cannot be considered as benign, since it hampers visual functions considerably. As many persons were suffering from identical lesions, an inquiry was made which revealed the fact that all the patients were frequenting the same swimming pool which was used by workmen living in that quarter of the city, from 350,000 to 400,000 people using it yearly. It is fed by the Seine river and the water is filtered in winter only by means of sand filters. The pool is scrubbed every Tuesday and the water renewed. All bathers are expected to use the shower before entering the pool, but in reality only few of them do it, and the water, which is renewed only once a week and heated to 27 C. (80.6 F.), becomes rapidly an excellent culture medium. The smears obtained by centrifugalization of the pool water do not seem to contain more than one form of long bacillus taking the Gram stain, and the same water in gelose serum yields only the same bacillus, the cultures of which emit a very bad odor. Rabbits inoculated with the cultures after scarification of the conjunctiva showed, properly speaking, no conjunctivitis. It is interesting to note that all the patients were males. This is attributed to the fact that the water is changed on Tuesday, and that Wednesday afternoon is reserved for women. Acute follicular conjunctivitis from swimming pools has already been described in Germany by Schultz and Fehr. In Paris, Morax has called attention to it, and he believes that during such an epidemic, even if it is limited, measures should be taken to prevent diffusion, not by more frequent renewal of water, but by temporary closing of the establishment.

The "Entr'aide Universitaire Européenne"

The students of central and eastern Europe have been living, for the last two years, in a state of indescribable misery. They need food, clothing and instruments, and they cannot obtain lodging. Among these students, approximately 20,000 refugees from Russia, Ukraine, Armenia and Georgia are absolutely without resources and are obliged to find temporary abode in railroad stations. Many of them have tried to earn their living as gardeners, clerks and as musicians in motion picture theaters during their spare hours. A great number of Russian refugees have been obliged to give up their study and to become railway employees or laborers. But the labor unions and the present lack of jobs (to say nothing of the weak physical condition of these young men) prevent their doing manual labor. On the other hand, their country is in great need of trained minds of all kinds, and Russia, Poland and Hungary need physicians, engineers and lawyers.

In order to cope with these pitiful conditions, the Fédération Universelle des Associations Chrétiennes d'Etudiants has organized the Entr'aide Universitaire Européenne, supervised by a special committee, with headquarters in Geneva. The French committee comprises Professor Appell, rector of the Paris Academy; several professors from various faculties, among whom is Dr. Prenant, professor of the Faculty of Medicine of Paris, as well as representatives of several students' organizations, such as the Union nationale des étudiants de France, the Fédération française des associations chrétiennes d'étudiants, and the Association générale des étudiants de Paris. The distribution of assistance is assured, with the collaboration of university officials and local students' associations, and the organization is always in close touch with other organizations to prevent duplication.

As regards Russia, an agreement has been made with Dr. Nansen, and an agent from the Entr'aide will leave soon for Russia to organize relief work among the students. Help is offered without political or religious considerations. An inquiry is made concerning the material needs of each student, and those who have given proof of real aptitude and who have had several years of training will be encouraged in the continuation of their studies. The French representatives of the Entr'aide universitaire have decided to limit their efforts for the present to Russia and Poland, which are the most tried countries. The donors may express their desire that their gift be given to one of the two countries.

Syphilis and Servants

In one of the last sessions of the Société française de prophylaxie sanitaire et morale, Dr. Bizard presented an interesting communication concerning syphilis in servants, showing, by a few typical examples, the dangers that may be encountered by us and especially by children entrusted to

conscienceless women who sometimes have just completed a more or less lengthy sojourn in the Saint-Lazare house of detention for criminal women and prostitutes. Thus, there is a risk of contaminating, morally and physically, young children, in whom a bad example leaves an impression that may never be effaced. From the standpoint of professional secrecy, syphilis in servants gives rise to difficult problems. If the servant does not wish to leave his or her position, the physician, bound by professional secrecy, is powerless and is obliged to witness contamination, since it is difficult for him to tell the master that his maid is affected with a contagious disease, without specifying the nature of the disease. Dr. Morin described before the society a typical case: A servant, taking care of children, was sent by her master to a private sanatorium, where, after questioning, mercurial treatment was prescribed, since at that time arsphenamin was not known. The servant's husband called on the physician and threatened to sue him, asserting that he had revealed the nature of the disease by prescribing mercury. Dr. Gougerot recalled that the sanitary code of New York State forbids servants to practice their profession when they are affected with a venereal disease. To ward off all danger, a medical certificate should be required of a servant; but Dr. Jeanselme, professor of clinical skin and venereal diseases of the Faculty of Medicine of Paris, objected on the ground that, considering French customs, there is little chance that a law similar to that of New York State could be adopted. As regards a certificate of health, the present difficulty in finding help forbids even the thought of it. Dr. Faivre stated that a distinction should be made in interpreting professional secrecy, depending on whether the physician is called by the master or by the servant. When he is called by the master, he is undoubtedly bound by professional secrecy toward the servant; but should he not be considered as an expert toward the master? The master tells the physician that he has some doubt regarding a certain servant. The physician cannot make a statement; but is it not possible for him by his answer to awaken a doubt in the mind of the master that will permit him to suppose the truth? Dr. Morin objected that Dr. Faivre's suggestion would be very dangerous, as the discharged servant would contaminate another family.

Thus, the solution that remains is the dissemination among the public of a knowledge of the dangers of syphilis. The belief still exists that debauched persons are those more likely to contract syphilis, but it is important to teach the public that it may be contracted innocently, and that it is inviting contamination to keep in one's service a person having signs of syphilis. Dr. Bizard stated that he knew of a family that had a servant with a syphilitic chancre of the lower lip, to whom he had given a prescription on which he had written that the disease was contagious and that it required precaution and long and regular treatment. The servant honestly showed the prescription to the members of the family, submitting to their decision, but they believed Dr. Bizard to be too pessimistic regarding his apprehension; and, not wishing to deprive themselves of the woman's services, they paid no attention to his warning and thus exposed themselves, their children and their grandchildren to syphilitic contamination.

Death of Benoît

Dr. René Benoit, former director of the International Bureau of Weights and Measures, corresponding member of the Academy of Science and of the Bureau of Longitudes, died in Dijon at the age of 78. He was the son of Dr. Justin Benoit, dean of the faculty of medicine of Montpellier, and was born in that city in 1844. He studied medicine and received his doploma; but pure science attracted him, and he came to Paris, where he prepared his thesis on the electric resistance of metals. In 1872 the Meter Commission met for the first time and created the scientific laboratory which is known today as the International Bureau of Weights and Measures. René Benoit was first appointed assistant director of the bureau and then director, and during that time he devoted his time to researches on measures of length, thermometry, etc.

A Suggestion for Solving the Medical Crisis

A few days ago, Paris physicians received a pamphlet bearing the suggestive title, "How to Avoid the Medical Crisis." As this question absorbs the thoughts of the medical profession, physicians hastened to examine it. One of the suggestions was:

> When a patient comes to see you, as a rule you submit him to the regular questioning and auscultation, then you give him a prescription, and you do not see him any more; or perhaps a long time after, if it is a serious case. The pecuniary result is one consultation only. Supposing now that you have in your office our high frequency apparatus; besides giving your patient a new form of treatment you hold him, because you alone and not he can apply the treatment, and he is obliged to come back to you. Thus you are paid for six, ten or even twenty visits.

The cynicism of manufacturers of proprietaries is a matter of common knowledge; but this manufacturer of electrical apparatus is by no means their inferior.

A Practical Course in Dietetic Cooking

Often dietetic prescriptions are not followed to the letter because the physician is not sufficiently insistent on culinary details. Many times these details are unknown to the physician, as they were not included in his studies. Dr. Marcel Labbé, professor of pathology and therapeutics at the Faculty of Medicine of Paris, has tried to fill this gap by organizing, at the Charité Hospital, a practical course in dietetic cooking. The course consists of ten lessons, and includes the regimen for gastric and intestinal dyspeptics, nephritics, the obese, diabetics, etc. Labbé and his collaborators will take up practical questions, as, for example, the preparation of fermented milk, the baking of bread, cooking of vegetables, the preparation of unsalted dishes for nephritics, food without fats for the obese, and bread and sweetened dishes for diabetics. A congress has been held recently in Paris by the Fédération internationale pour le développement de l'enseignement ménager, in which questions pertaining to food hygiene and cooking courses for young women of all classes, and especially of the working class, were taken up.

Responsibility of Physicians with Regard to Alcoholism

The French Society of Abstinent Physicians, considering the special responsibility of the medical profession as regards alcoholism, has adopted a resolution, urging physicians to be conscious of this responsibility:

> To respect on all occasions, and especially when prescribing, the habits and convictions of abstainers, as well as the integrity of those who have not yet been affected by alcohol; to eliminate from therapeutic and alimentary prescriptions preparations and beverages containing alcohol, as it is proved that there is no therapeutic indication for alcohol or fermented beverages and that they can be replaced by other medicines; to collaborate, with the help of observations made in their hospital service and among their clients, and of methodical and unbiased experiences based on the effects of abstinent regimen in patients and healthy persons, with a view of making an impartial inquiry into the therapeutic value of alcohol, and to join in the efforts made everywhere against alcoholism.

International Congress of Otology

The tenth International Congress of Otology, presided over by Dr. Sebileau, professor of clinical otorhinolaryngology of the Faculty of Medicine of Paris, will be held in Paris, July 19-22, under the patronage of the minister of public instruction. The subjects chosen for discussion are: (1) abscess of the cerebellum; (2) auricular meningitis; (3) value of functional tests of the vestibular apparatus, and (4) syphilis of the ear. An extra session will be devoted to a discussion of treatment of cancer of the larynx by surgery, roentgen ray and radium. Every morning, visits will be made for the

observation of cases in otorhinolaryngology and surgery of the head and neck (operations, presentation of patients, etc.). An exhibition of instruments as well as anatomic and pathologic parts of the diseased ear, nasal fossae and nasopharynx, will be held at the Faculty of Medicine during the congress. The subscription fee of 100 francs includes a copy of the proceedings and of the discussions, and must be sent to the treasurer of the congress, Dr. Georges Laurens, 4 Avenue Hoche, Paris.

Proprietaries and the Academy of Medicine

In one of my previous letters (THE JOURNAL, April 8, 1922, p. 1065), I mentioned the discussions which took place recently concerning communications made to medical societies regarding pharmaceutic specialties. The *Journal des praticiens* has recently published an editorial on the subject, directed against certain communications made to the Academy of Medicine. The editorial calls attention to the fact that communications made to the Academy of Medicine bearing on a therapeutic subject do not always have the weight of disinterested information. The members of the academy hear the author of the communication laud the curative qualities of a medicament with which he was first to experiment, and, fifteen days later, the medicament which had been praised before the academy has become a proprietary. The Academy of Medicine, naturally, cannot endorse a medicinal article about which it knows nothing. Thus, the *Journal des praticiens* asks whether it is not possible, before authorizing a communication on a therapeutic subject to the Academy of Medicine, to submit the conclusions to a committee composed of several members, in order that the statements made by the author can be verified.

PRAGUE

(From Our Regular Correspondent)

May 5, 1922.

Statistics on Stillbirths

A study of the statistics of stillborn children has been made recently in the ministry of public health, in connection with the venereal disease survey which the ministry is undertaking. The emphasis on the spread of venereal diseases in the after-war period in this country has been based exclusively on personal impressions, without any statistical background. As the experimental reporting of venereal diseases, which was carried out in February, 1921, did not give an idea as to the changes in the spread of these diseases in the course of time, a study of the statistics of stillborn children has been undertaken in order to find out whether their relative number could not be used as an index of the spread of the disease, marital syphilis, especially. There is no uniform rule for reporting stillbirths, as to the month of gestation from which reports have to be made. The practice is that stillborn children are usually reported beginning with the seventh month of pregnancy. The number of stillborn children expressed in percentages of children born alive was practically constant before the war, and a steady but small increase was noted. Larger cities always have had a higher rate of stillbirths and the increase in the cities kept step with the increase in the country. During the war, and especially in its last years, a more rapid increase took place. But the most pronounced increase came in the years following the war. Whereas, between 1910 and 1914, the rate of the stillborn to the living increased 5 per cent., it increased 10 per cent. during the four years of the war. In the three years following 1918, it increased 15 per cent., so that it is probable that the increase for the four years following the war will greatly exceed that of war time. As it appears that other factors influencing the number of stillbirths which could explain the marked increase have not changed, it is probable that this increase is due to a disease which, according to clinical experience, has a very deleterious effect on fetal life. This conclusion will be confirmed if the rate decreases in the course of the following years, when a decrease of marital syphilis can be anticipated, on the basis of military and other statistics.

Demonstration in Rural Hygiene

The ministry of health has undertaken a rural hygiene demonstration in the small community of Kvasice and neighboring villages in the province of Moravia. The demonstration is being carried out with the help of the International Health Board of the Rockefeller Foundation, which has undertaken many similar demonstrations in other countries. The community chosen for the demonstration comprises a population of about 3,000. This place has been selected because it has fairly intelligent inhabitants, living in typical rural conditions, and it has been known for its high rate of endemic typhoid. The work has been started by a systematic health educational campaign, and a sanitary survey is being carried out. A popular typhoid exhibit belonging to the ministry of health has been brought to the town, and educational literature is being distributed. The Czechoslovak Red Cross has lent its health educational unit, which is equipped with a moving picture outfit on a truck. The unit remained in Kvasice for a week, and gave lectures to the schoolchildren and to the general public. The newspapers have published articles on the importance of the work, and have appealed to the public for cooperation. A housing survey is being made in order to discover the environmental needs. At the same time, an analysis of the statistical material will reveal the damages which the community has suffered from preventable diseases. Model toilets have been constructed by a local carpenter under the direction of a sanitary engineer. A well protected public water supply will be furnished the community, in cooperation with the province of Moravia and the ministry of health, which will also help financially. It is anticipated that such a demonstration, if properly conducted and given sufficient publicity, will lead to a livelier interest in public health matters, which is needed not only in the large cities but also in rural communities.

NETHERLANDS

(From Our Special Correspondent)

April 29, 1922.

Emergency Service in Frise

The province of Frise has just organized an emergency service for urgent cases. Often available means of transportation and information do not allow the surgeon or physician to act as quickly as the case demands. Automobile ambulances are reserved for the urban population of large cities, and when an accident or a disease demanding urgent intervention occurs in a village distant from the city, the patient is carried in an inadequate vehicle to a city hospital. With the new organization, however, the city hospital, at the first call, sends its automobile ambulance to any part of the province. All the localities have telephone connections with the city of Groningen, and the smallest village has a telephone station which can get in touch day and night with the city. Thus, a patient can be carried promptly and safely to the hospital, where he can be operated on immediately.

Medical Control in the Postal Administration

Results from the medical control of postal employees on sick leave have just been published. Before the organization of the control committee, sick leaves reached 8.8 per cent., but are now only 1.8 per cent. These figures show a wonderful saving for the postal administration. In 1919, before the establishment of medical control, with a personnel of 19,437

employees, there were 391,692 days of sickness; while in 1921, with a personnel of 23,956, only 259,152 days of sickness were reported. The savings realized by the government amount to 600,000 florins.

The Protection of Nurslings

The Netherlands Association for the Protection of Nurslings continues its fight throughout the country. It will meet this month at Arnhem. The subjects chosen for discussion are: protection against syphilis; protection of the child born before term, and the fight against tuberculosis.

The Leyden Hospital

A new and important medical enterprise is in course of realization at Leyden under the auspices of the ministry of public instruction. The hospital, which before the war would have cost 6,000,000 florins, will now cost 14,000,000. It will have 600 beds distributed throughout several wings.

Medical Courses

The medical association of Amsterdam organized for the end of June a series of conferences and advanced courses on diseases of children. The courses will last five days and will include medical, surgical and social pediatrics. Well known pediatricians will take part in the discussions, and an opportunity will be afforded for all physicians to see briefly what progress has been accomplished in this branch of medicine.

The Number of Hospitals in the Netherlands

The *Nederlandsch bond voor Ziekenverpleging*, published in 1921, as it did in 1911 and 1916, statistics concerning the number of hospitals and the number of beds available. In 1911, there were 194; in 1916, 239; in 1921, 290. The beds numbered 22,381 in 1916, and 25,121 in 1921. Of this number, 17,106 were occupied, or 69 per cent.; while five years before, the number was 16,935, or 75 per cent. The personnel also increased from 4,056 in 1911 to 7,827, and those holding official diplomas from 30 per cent. in 1911 to 40 per cent. in 1921.

Results of Revaccinations

The commission appointed by the Nederlandsch Vereeniging van Koepokinrichtingen to investigate the subject of revaccinations was composed of D. A. Se Jong, H. van de Berg and Y. Rodenhuis. The commission considered the following points: The success of the fight against smallpox depends on intensive revaccination, as results show that in children the immunity conferred by vaccination is lost after a certain length of time. But the importance of this loss of immunity is difficult to determine on account of the difference in interpretation of results of vaccinations.

The commission called attention to the course which vaccinations and revaccinations pursue. In revaccination the specific reaction occurs earlier; it is abortive, with an extreme reaction; different points of inoculation reach different stages of development; the process is more superficial and there is no cicatrix. The fact that public revaccinations are examined, as a rule, one week later, makes it difficult to estimate the results obtained. In private practice, subjects should be examined three or four days after revaccination. The success of the operation is, however, very often recognized by certain signs. The commission describes and distinguishes three stages in which it is easy to recognize results of revaccination. It concludes that a revaccination showing even a slight areola or infiltration, or which has left a small brown scab, should be considered as positive. As regards degrees of success, they should be designated as papulous and vesicopustular, the latter including also cases in which previous vaccination was without effect, and which consequently are in reality a vaccination.

BERLIN

(From Our Regular Correspondent)

May 5, 1922.

Congress of Internal Medicine

The thirty-fourth congress of the Deutsche Gesellschaft für innere Medizin, which was held in Wiesbaden, the latter part of April, under the chairmanship of Professor Brauer of Hamburg, was attended by more than 800 physicians. The proceedings centered about the two subjects that had been proposed by the management for discussion: "Diseases of the Liver" and "Internal Secretions," but most of the other fields of internal medicine were drawn on during the course of the discussions. Chemistry plainly took the lead among the methods of research.

ICTERUS

The simplest cause of icterus, namely, the deposition of a large amount of biliary pigment in the blood, is, Eppinger pointed out, the mechanical hindrance of the outflow of bile; as, for example, stoppage of the common bile duct. On the other side of the mechanical obstruction, the bile collects, breaks through the finer structure of the canals leading backward and makes its way through the lymph paths to the blood vessels. In some marked types of jaundice, the stool retains its natural color, which is evidence that the flow of bile is not obstructed. The explanation for this is difficult, and none of the attempts to explain it are convincing. From Morgagni to Virchow and on down to the scholars of our own time (for example, Naunyn and Minkowski), no adequate explanation has been offered. It is quite certain that biliary pigment can be formed outside of the liver; namely, where a decomposition of red blood corpuscles takes place. What is not clear is whether the transition of such biliary pigment to the blood takes place without the mediation of the liver; also, whether the liver plays a part when icterus occurs following the ingestion of certain poisons. Moreover, Banti has shown that, in a certain type of icterus which follows the operative removal of the spleen, a yellowness of the skin which has persisted for years may disappear within a few days. It has also been found that, besides the liver cells proper, there is another kind of cell in the framework of the liver, the so-called Kupffer (star-shaped) cells, which play a part with respect to the bile pigments, and whose function has been at least partially explained by the researches of Aschoff and Lepehne. Thus, we may assume that when the separation of the bile pigment in the liver takes place, the material for the pigment is being prepared elsewhere as needed. The origin of the ordinary form of icterus, the so-called catarrhal type, is still obscure. For a long time, it was believed that it was of purely mechanical origin, being due doubtless to a catarrhal swelling of the region where the bile enters the intestine so marked that the outflow is entirely inhibited. But this is not so much the cause as the result of the damage to the liver cells. Furthermore, it has been shown by Naunyn and Minkowski that from catarrhal icterus to the forms of acute atrophy of the liver and the shrinking of the liver, which develops only after many years, certain uniform progressive disturbances may be demonstrated in the liver tissue. Three distinct groups can be distinguished: (1) that of mechanical origin; (2) that caused by damage to the liver tissue, and (3) that associated with the destruction of blood pigments. As in so many other affections, there are many transitional and mixed types.

THE PITUITARY GLAND

In the introduction to his article on the pituitary gland, Biedl recalled these facts and principles: The hypophysis consists anatomically of the anterior lobe (the prehypophysis), the intermediate lobe (the pars intermedia), the posterior lobe (the neurohypophysis) and the pars tuberalis;

furthermore, there are the accessory parahypophyses; above all, the pharyngeal hypophysis and the remnant of the embryonic hypophysial cavity.

In their embryonic development, the pars intermedia and the pars tuberalis are derived from the ectoderm, and the anterior lobe and the accessory formations from the entoderm; while the neurohypophysis is a part of the brain floor.

Structurally, the anterior lobe and its accessory glands constitute an endosecretory gland, which throws its lipoid and granular secretion products directly into the blood stream, and only in the case of overproduction stores them up in the hypophysial cavity and its cysts. The epithelial cells of the intermediate lobe line follicle-like cavities, into which they give off their colloidal secretion. This is poured through the clefts in the tissues and, further on, through the neurohypophysis and the pedicle of the hypophysis, in the direction of the brain, into the large lymph cavity of the ventricle of the brain. The pars tuberalis shows great similarity structurally to the intermediate lobe.

From the anterior lobe, a lipoid substance called tethelin can be obtained; the intermediate lobe and the posterior lobe contain, aside from one or more substances of specific pharmacodynamic effect, histamin and histamin-like substances, which are decomposition products of protein bodies. The substance of the anterior lobe possesses a specific activity as a stimulator of growth; while the peculiar, more closely analyzed effects of extracts of the intermediate and posterior lobes find an extensive therapeutic application. The relationship between the hypophysis and the other endosecretory organs may be recognized by the structural changes which take place, during the various stages of sexual life, in the pathologic variations of functions, and the changes of function experimentally produced, in the several endosecretory organs (genital gland, thyroid, suprarenals, pancreas), on the one hand, and, on the other hand, in the structural changes of the latter associated with changes in the activity of the hypophysis.

The functional performances of the various portions of the hypophysis can be deduced from the large number of existing experimental and clinical observations, taken in conjunction with the anatomicopathologic findings; and the following principles may be enunciated:

1. The hypophysis is an organ necessary to life, as evidence of which we have hypophysial cachexia and cachexia hypophysiopriva, in both man and animals.

2. The anterior lobe of the hypophysis contains gland elements which affect growth through the action of a morphogenetic hormone. As is likewise true of the pharyngeal hypophysis, its functional importance pertains chiefly to the period of growth; in the adult, it becomes important only in case of hyperactivity. As evidence of this, we have dwarfism and infantilism as the expression of arrested development following the experimental removal of the anterior lobe in animals; nanosomia pituitaria, hypophysial infantilism, ateliosis and senilism as the results of hypofunctioning associated with underdevelopment, or following destructive processes in the anterior lobe in the presence of tumors which arise in the lobe itself or in the hypophysial canal; also, the fact that hypophysial infantilism is affected by anterior lobe medication.

As the opposite of arrested growth, we have giantism, the result of hyperplasia and tumors of the anterior lobe, which arise before the close of the period of physiologic growth; acromegaly associated with hypoplasias and especially with eosinophilic adenomas of the anterior lobe; acromegaloid manifestations associated with hyperplasias of other varieties of cells, pointing possibly to several substances, affecting growth in various ways. The nature of the disordered functioning is not as yet understood; nor is there any very tangible evidence for the assumption that certain adenomas of the anterior lobe yield secretions which influence metabolism. The disturbances of metabolism associated with acromegaly are due to the effects of a tumor on the functioning of the intermediate lobe. Further evidence is furnished through the application of roentgen irradiation to hypophysial tumors and by their operability and the results of operations that have been hitherto performed.

3. The function of the pars tuberalis has not as yet been clearly ascertained.

4. The intermediate lobe is a gland affecting metabolism and possessing a correlative functional action. The secretion of the intermediate lobe passes through the posterior lobe and the stem of the hypophysis, serving to establish a connection with the metabolism center located in the midbrain. The evidence for this conception lies in the obesity, together with genital dystrophy, that follows experimental lesions and destruction of the pars intermedia, following obstruction or division of the hypophysial stem in animals, manifestations which occur at all ages but which are more marked in young animals, owing to the arrest of growth caused by the removal of the anterior lobe. Adiposogenital dystrophy in man, as described by Fröhlich, is caused by arrested development and destruction of the intermediate lobe, by pressure of tumors on this tissue, or by factors which prevent the flow of secretion through the hypophysial stem, such as hydrocephalus or growing tumors. A careful analysis of the effect of the secretion of the pars intermedia, either direct or through the mediation of the nervous metabolism center, lends further support to this theory. A newly established syndrome is: congenital malformations (atresia ani, polydactylism, retinitis pigmentosa); deformities of the skull with retarded mental development; marked obesity, with or without genital hypoplasia, and peculiar disturbances of digestion (occurrence in two members of a family, in whom there were no changes in the hypophysis and no signs of a brain tumor or of pathologic cerebral pressure, but diabetes insipidus was a concomitant symptom). Attention was called to the paramount importance of the water regulatory center in the region of the tuber cinereum.

5. The physiologic significance of the topical relationship of the anterior lobe affecting growth and the intermediate lobe influencing metabolism, and the reason for their union in the hypophysial apparatus are not fully understood as yet, but it should be noted that we have analogous conditions in other endosecretory organs. From the pathologic standpoint, they constitute the basis of manifold combinations of affections that relate to the hypophysis. The position of the hypophysis in the endocrine system is determined by the correlative relations of its parts, evidence for which is found in the anomalies of growth already mentioned as commonly associated with disturbances of secretion. The clinical aspects of certain types of polyglandular affections may be mentioned in this connection.

Marriages

HUGO FREDERICK AUGUST BASKE, M. C., U. S. Army, to Miss Alice Virginia Cooper, both of San Diego, Calif., May 5.

CLARENCE DAY POWELL, Valier, Mont., to Mrs. Olivia B. Fradt of Casper, Wyo., in April.

RALPH AREGOOD LAW to Miss Frances Louise Weber, both of Little Rock, Ark., May 2.

EDWARD WILLIAM LAZELL to Mrs. Elizabeth Weed Ketcham, both of Denver, April 15.

SMITH HOLLINS MCKIM, New York, to Mrs. Edward Ladd at New York, May 11.

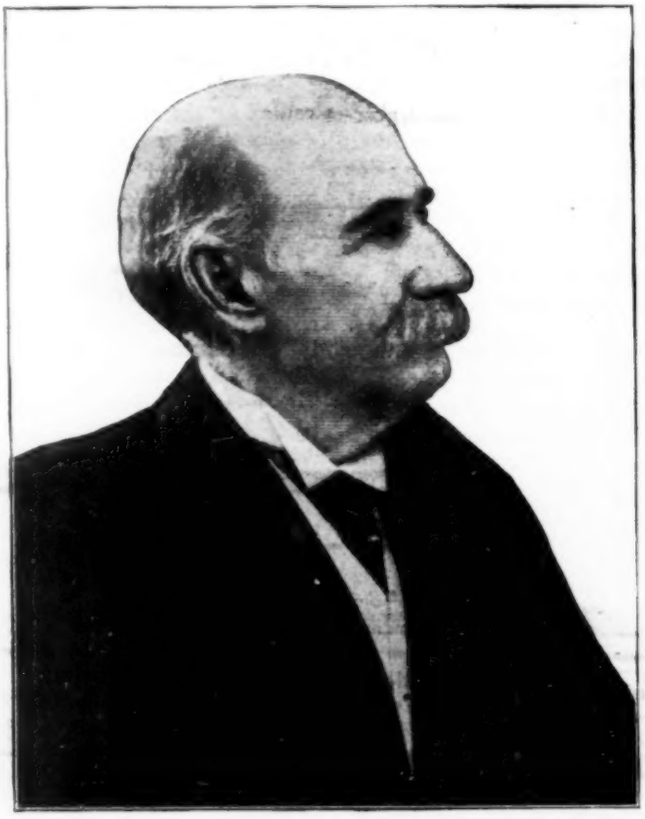
BERNARD A. O'HORA to Miss Ruth Elizabeth Nagle, both of Detroit, May 20.

Deaths

John Allen Wyeth ✦ New York City; died suddenly of heart disease, May 28. Dr. Wyeth was born in Alabama, May 26, 1845. He was educated in the common schools and for one year at a military academy. During the Civil War he served as a private soldier in the Alabama Cavalry; fought in each of the engagements at the Battle of Chickamauga, and while following the retreating Federals was captured and spent fifteen months in the military prison at Camp Morton, Ind. When peace was declared he engaged in farming and in 1867 began the study of medicine under Dr. J. M. Jackson of Guntersville, Ala. He graduated at the University of Louisville Medical School, in 1869. He then became surgeon to a railroad construction company in Arkansas, but after one year gave up the practice of medicine, engaging in steamboat and contract work, and in 1872 erected a public building for the county of Woodruff, Arkansas. In October, 1872, he moved to New York, matriculated at Bellevue Medical College, and in March, 1873, received the degree of M.D. Ad eundem. After his graduation he was appointed assistant demonstrator in anatomy, 1873 to 1874. Because of ill health he gave up practice and visited Europe from 1876 to 1878. In 1880 he became prosector to the chair of anatomy and surgery in Bellevue College, which position he held until 1897. In 1881 he organized, and became senior professor of surgery in, and later president of the faculty, of New York Polyclinic Medical School and Hospital, the first postgraduate medical school in the United States. In 1893 he was elected first vice president of the American Medical Association; in 1900, president of the New York State Medical Association, and in 1901, at St. Paul, President of the American Medical Association.

In 1886 Dr. Wyeth married Florence Nightingale Sims, daughter of Dr. J. Marion Sims of Alabama, and among his contributions to medical science of particular interest was an address on the life and work of his distinguished father-in-law, delivered in 1895. Dr. Wyeth won a prize given by the American Medical Association in 1878 for an essay on "surgery of the carotid arteries." Following this initial venture he contributed widely to both lay and medical periodicals. Among his notable papers were an address on medical education in 1890, and at the same time, the description of a method of amputation at hip and shoulder joints; and in 1903, the suggestion of the injection of boiling water for the treatment of inoperable tumors. He was also the author of two books on surgery, the biography of General Forrest, and his own autobiography, entitled "With Sabre and Scalpel," published in 1914.

Dr. Wyeth was a man of varied and interesting activities, whose career contains all of the romantic elements, which make up the lives of American medical pioneers. During the World War the postgraduate school was turned over to the government for hospital purposes. Several years ago Dr. Wyeth accidentally fell and sustained a fracture, from which, however, he made a satisfactory recovery, and recently he was especially active in undertaking the reopening of the postgraduate school. With Dr. Wyeth's death, there passes a conspicuous figure in the development of American medicine.



JOHN ALLEN WYETH, M.D., LL.D., 1845-1922

Wallace Blanchard ✦ Chicago; Chicago Medical College, 1869, died at St. Luke's Hospital, following an operation, May 26, aged 73. He was a member of the American Orthopedic Association and at one time president of the Chicago Orthopedic Society. Dr. Blanchard served for many years as assistant clinical professor of orthopedic surgery in Rush Medical College and as attending orthopedic surgeon to the Chicago Home for Destitute Crippled Children.

Welcome Taylor Alexander, New York; Bellevue Hospital Medical College, New York, 1870; formerly dermatologist to the Demilt Dispensary; assistant professor of dermatology at the New York Postgraduate Medical School, New York; at one time a member of the New York Dermatological Society; died, May 18, aged 74, at the New York Post-Graduate Hospital of pulmonary edema following an operation for carcinoma.

Frank De Witt Reese ✦ Cortland, N. Y.; Long Island College Hospital, Brooklyn, 1885; formerly president of the Cortland County Medical Society, the third district branch and the sixth district branch of the New York State Medical Society; died, May 2, aged 63, at the Syracuse Memorial Hospital, Syracuse, from influenza and kidney trouble.

Edmund Randolph Jenkins, Washington, Iowa; College of Physicians and Surgeons, Keokuk, Iowa, 1874; Bellevue Hospital Medical College, New York City, 1884; member of the Iowa State Medical Association; formerly president of the Wabash County Medical Society; member of the school board; died, May 22, aged 73.

Melvin P. Malcolm, Charleston, W. Va.; University of Louisville Medical Department, Louisville, 1890; member of the West Virginia State Medical Association; formerly member of the state legislature; at one time county commissioner and health officer; died, May 12, aged 54, from chronic nephritis with complications.

James W. Birchfield ✦ Hemlock, Ind.; Central College of Physicians and Surgeons, Indianapolis, 1898; formerly on the staff of the Eastern Indiana Hospital for the Insane, Richmond; stationed at the Soldiers' Home, Lafayette, during the World War; died, May 11, aged 60, from heart disease.

James Thacher Adams, Oakland, Calif.; University of Vermont College of Medicine, Burlington, Vt., 1896; formerly psychiatrist to the Psychopathic Department of the Boston State Hospital, Boston; died, April 27, aged 51, from aortic stenosis.

Lucullus R. Sellers, Fort Scott, Kan.; Indiana Medical College, Indianapolis, 1877; for sixteen years staff physician at Osawatomie State Hospital; formerly superintendent at the Larned State Hospital; died, May 7, aged 73, from heart disease.

Harry Brown McCallum, Ann Arbor, Mich.; University of Michigan Medical School, Ann Arbor, 1921; intern at the University Hospital, where he died, April 21, aged 25, from spinal meningitis, following operation for mastoid abscess.

Madison T. Didlake, Monticello, Ind.; Chicago Medical College, 1867; member of the Indiana State Medical Association; for eighteen years a member of the school board; died, May 11, aged 77, from carcinoma of the liver.

Walter H. Allen ✦ Marlin, Texas; Medical Department of the Tulane University of Louisiana, New Orleans, 1892; was drowned in the Brazos River at Marlin when a steel bridge collapsed, May 16, aged 53.

✦ Indicates "Fellow" of the American Medical Association.

Laura G. Shrom, Pittsburgh; Woman's Medical College of Pennsylvania, Philadelphia, 1898; president of the Women's Medical Association of Allegheny County; died, May 15, aged 73.

Frank Austin Roy, New York City; Medical Department of the University of the City of New York, 1879; died, May 9, aged 64, from a revolver wound, presumably self-inflicted.

Sigmund A. Tarler, New York; University of Wurzburg, Germany, 1886; at one time on the staff of the Mount Sinai Hospital; died, May 12, aged 64, from cerebral thrombosis.

Edward Harvey Maynard ✠ Nyack, N. Y.; Medical Department of Columbia College, New York City, 1873; visiting physician to the Nyack Hospital; died, May 8, aged 72.

Gus S. Shipley, Athens, Tenn. (licensed, Tennessee, 1889); member of the Tennessee State Medical Association; was shot and instantly killed by his son, April 30, aged 52.

William P. Horton, Northwilkesboro, N. C.; Baltimore Medical College, 1892; member of the Medical Society of the State of North Carolina; died, May 6, aged 55.

William Thomas Elmore, New Market, Tenn.; Medical Department, University of Tennessee, Nashville, 1892; died suddenly, May 3, aged 66, from heart disease.

Henry Erhardt Livingstone, St. Louis; St. Louis College of Physicians and Surgeons, St. Louis, 1903; died suddenly in church, May 9, aged 43, from heart disease.

Charles T. Miller, St. Paul, Minn.; Homeopathic Medical College of Missouri, St. Louis, 1875; died, April 27, aged 68, at the St. Mary's Hospital, Minneapolis.

Alfred M. Hathcock, Harrison, Ark.; Missouri Medical College, St. Louis, 1878; formerly member of the state legislature; died, May 2, aged 67.

Monroe Archer Warhurst, Seminole, Okla.; Chicago College of Medicine and Surgery, Physio-Medical, 1899; died, May 6, aged 57.

Marshall Gould Williamson, Upland, Calif.; University of California Medical School, San Francisco, 1916; died, April 27, aged 32.

Wiley H. Young, Clinton, S. C., Atlanta Medical College, Atlanta, Ga., 1887; died, May 13, aged 63, from cerebral hemorrhage.

William Garland White, Jonesboro, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1882; died, May 3, aged 68.

Joseph Eugene Good, New Market, Va.; Jefferson Medical College, Philadelphia, 1884; died, May 7, aged 60, from meningitis.

Dolphus Harrison Bell, Silver City, N. M.; Washington University Medical School, St. Louis, 1913; died, May 5, aged 35.

Thomas T. Baker, Amandaville, Ky.; Medical Department, University of Tennessee, Nashville, 1877; died, April 26, aged 82.

Frederick Hutchins, Woodbridge, Calif.; Dartmouth Medical School, Hanover, N. H., 1871; died suddenly, May 2, aged 86.

William Frank Preston, Mooresville, Tenn.; University of Tennessee College of Medicine, Memphis, 1909; died, May 4, aged 39.

Zachery Duvall Ridout, St. Margarets, Md.; University of Maryland School of Medicine, Baltimore, 1869; died, May 8.

Eli L. Brown, Thornton, Ind.; Eclectic Medical Institute, Cincinnati, 1879; died, May 10, aged 74, from general paresis.

R. B. Spiers, Kirkland, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1878; died, May 12, aged 76.

Andrew J. Chamberlain, Fleming, Colo.; Northwestern Medical College, St. Joseph, Mo., 1883; died, May 4, aged 71.

Ira Lee Miller, Alabama City, Ala.; Chicago College of Medicine and Surgery, 1912; died, May 3, at Wylam, aged 31.

George W. Fleming, Shelbyville, Ind.; Bellevue Hospital Medical College, New York City, 1868; died, May 3, aged 78.

Thomas T. Key, Norcross, Ga.; Jefferson Medical College, Philadelphia, 1856; died, March 23, aged 87, from senility.

Christopher Van Artsdalen, Philadelphia; Jefferson Medical College, Philadelphia, 1874; died, May 10, aged 72.

John Godfrey Walker, St. Paul, Minn.; Rush Medical College, Chicago, 1873; died, May 8, aged 70.

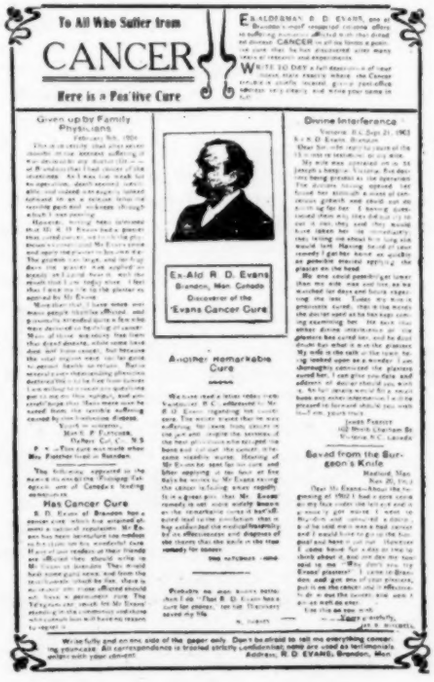
The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

EVANS "CANCER CURE"

R. D. Evans of Brandon, Manitoba, sells a "positive cure" for cancer! Evans is "one of Brandon's most respected citizens"—and he admits it. Following the orthodox lines of cancer quackery, Evans made his discovery "after many years of research and experiments" and he now "offers to suffering humanity afflicted with that dreadful disease CANCER, in all its forms, a positive cure"—price "One hundred Dollars in advance"!

Evans declares that his "treatment" will cure either internal or external cancer and that it is especially efficacious in the internal variety! The victim who parts with $100 for this


To All Who Suffer from
CANCER
Here is a Positive Cure
Ex-Ald R. D. Evans
Brandon, Man. Canada
Discoverer of the
"Evans Cancer Cure"
Given up by Family Physicians
Another Remarkable Cure
Has Cancer Cure
Divine Interference
Saved from the Surgeon's Knife

cruel and worthless fake is told to shave a patch about the size of a silver dollar on the crown of the head. The "cure" is then applied to this spot and left there until it dries, when the performance is repeated. This is for the treatment of internal cancer. "For external cancer the discovery is applied on the spot." Says Evans:

> "I have known the discovery to kill cancer of the uteries [Original with Evans.—Ed.] in less than ten hours, and all internal cancers yield more quickly than external cancers do."
>
> "My discovery for the cure of internal cancer is applied on the real crown of the head, the nerve center. The application here does not draw; neither does it break the skin, it kills the cancer and Nature works off the dead matter."
>
> "I have had letters from all over the English-speaking world and hold in my possession letters from titled people, leading physicians and one which I am very proud of from a King."

Evans says that for some time after he made "the discovery for the cure of cancer" he said nothing about it until some neighbors urged him to try it on a woman in his own city who "was dying with internal cancer." "I went and applied my discovery and in three days the lady was walking about the house." After this he began advertising in the newspapers—"on the advice of legal friends."

From letters that have been received by THE JOURNAL it appears that Evans, during the past year, has found not a few victims in the rural districts of Wisconsin, and even,

apparently, in some of the larger cities. At various times specimens of "Evans Cancer Cure" have been sent to THE JOURNAL with the request that the A. M. A. Chemical Laboratory analyze the product. All the specimens have been alike in odor and color and all have responded to the same qualitative tests. One specimen, after thorough mixing, was subjected to quantitative determinations. The laboratory report follows:

"'Evans Cancer Cure' comes in grayish lumps and has an odor of a rancid fat. When extracted with ether, a saponifiable fat was obtained having characteristics of lard. The amount of fat was 15.3 per cent. The residue from the ether extraction responded to tests for iron (both ferrous and ferric forms) sulphate and traces of magnesium and sodium. Mercury, arsenic, and zinc were not found even in traces. Alkaloids were also absent. Quantitative estimations on the fat-free extracts yielded the following:

"Iron (Fe)	29.6
"Sulphate	56.3

"The major portion of the fat-free extracts contains ferrous sulphate (59.5 per cent.) with a smaller portion of a ferric sulphate (26.4 per cent.); the remainder is probably due to one molecule of water of crystallization. The substance corresponds to Exsiccated Ferrous Sulphate U. S. P., which contains the equivalent of not less than 80 per cent. of the anhydrous salt.

"From this it seems evident that Evans Cancer Cure is essentially a mixture of 1 part of a fatty substance (such as lard) and 5 parts of dried ferrous sulphate."

From the chemist's analysis it is evident that five cents' worth of dried ferrous sulphate ("copperas" or "green vitriol") and a dab of lard will accomplish just as many cures of cancer as the $100 treatment of the "respected citizen" of Brandon, Manitoba.

MORE MISBRANDED NOSTRUMS

Abstracts of Recent Notices of Judgment Issued by the Bureau of Chemistry of the United States Department of Agriculture

Beil's New Nerve Tablets.—The Beil Mfg. Co., Denver, Colo., a concern that has been dealt with more than once in the pages of THE JOURNAL, shipped in August, 1919, a quantity of "Beil's New Nerve Tablets" which were misbranded. The federal chemists reported that analysis showed the tablets to consist essentially of aloin, zinc phosphid, nux vomica extractives, resin, a laxative plant drug, magnesium and iron salts. Some of the claims on or in the trade package for this product were:

"Nerve Tablets . . . to Feed the Brain, Build up Wasted Tissues and Send Fresh Rich Blood . . . through . . . the System."

"A Remedy . . . for Nervous Debility, Loss of Memory, Atrophy, Dyspepsia, Kidney Diseases and Catarrh of the Stomach, Liver and Kidneys."

"For Nervous Debility, Failing Sight, Sleeplessness, Failing Memory, Despondency. . . . Five boxes . . . is enough for the most aggravated case."

These and similar claims were, naturally, declared false and fraudulent. In October, 1920, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9814; issued Jan. 27, 1922.*]

Diemer's Products.—The Dr. F. W. Diemer Medicine Co., Springfield, Mo., shipped in August and December, 1919, a number of products that were misbranded.

"Diemer's Prescription for Gonorrhea and Gleet" was reported by the federal chemists to consist of two preparations: pills for internal use containing chiefly Epsom salt, calcium sulphid, ferrous sulphate and oil of cubebs; tablets for external use containing chiefly boric acid, zinc sulphate and hydrastin. The product was falsely and fraudulently represented as an effective cure for gonorrhea and gleet.

"Diemer's Dyspepsia Tablets," when analyzed by the federal chemists, were found to consist chiefly of baking soda, a laxative drug and ipecac alkaloids. These tablets were falsely and fraudulently represented as a remedy and cure for dyspepsia, indigestion, catarrh of the stomach, anemia and loss of flesh. They were also falsely labeled "a purely vegetable remedy, free from all mineral" when, as a matter of fact, they contained baking soda.

"Diemer's Hot Toddy" were reported by the federal chemists to consist of tablets containing, chiefly, milk sugar, baking soda, a laxative plant drug, and small amounts of ginger and red pepper flavored with oil of cassia. These were falsely and fraudulently represented as a remedy and cure for indigestion, sick headache, jaundice, diarrhea, rheumatism, neuralgia, hay fever, suppressed and irregular menstruation, headache, kidney disease, hardening of the liver and various other conditions.

"Diemer's Kidney and Bladder Tablets," according to the federal chemists, consisted chiefly of baking soda, saltpeter and a laxative plant drug. They were falsely and fraudulently represented as a cure for backache, dropsy, congestion of the kidneys, inflammation of the bladder, etc.

"Diemer's Treatment for Piles" was found by the chemists to consist of suppositories containing cacao butter, borax, alum and tannin-bearing plant material. These were falsely and fraudulently represented as an effective treatment for piles of every kind.

"Diemer's Antiseptic Female Suppositories" were found to contain cacao butter, borax, alum and tannin-bearing plant material. They were falsely and fraudulently represented as an effective cure for leucorrhea, lacerations, ulcerations and all discharges from the vagina or uterus.

"Diemer's Rheumatic Remedy," according to the chemists, contained, chiefly, acetanilid, baking soda and a laxative plant drug. It was falsely and fraudulently represented as a cure for rheumatism, gout, lumbago, "crick in the back," pain in the side, etc.

"Diemer's Pennyroyal and Tansy Compound" was found to consist of tablets containing chiefly plant material, including aloes and red pepper, with saltpeter and sand. This preparation was falsely and fraudulently represented as an effective cure for suppressed, irregular and painful menstruation.

"Diemer's Preparation for Specific Blood Poison" was found to contain, chiefly, calcium carbonate, ferric oxid, potassium iodid and small amounts of arsenic and mercury. It was falsely and fraudulently represented as a cure for syphilis.

"Diemer's Laxative Grip-Malarine" was found to consist of acetanilid, baking soda, aloes and red pepper. It was falsely and fraudulently represented as a cure for grip, coughs, bronchitis, malaria, neuralgia, etc.

In April, 1921, the Dr. F. W. Diemer Medicine Company pleaded guilty and was fined $60 and costs.—[*Notice of Judgment No. 9830; issued Jan. 27, 1922.*]

Manhood Tablets.—Between May, 1919, and February, 1920, the Hollander-Koshland Co., Baltimore, Md., shipped a quantity of "Manhood Tablets" from Maryland to Mississippi. The federal chemists reported that analysis showed the preparation to contain damiana, strychnin and zinc phosphid. The article was labeled with such claims as:

"Manhood Tablets For Use in The Treatment of Sexual Weakness or Impotence. . . . Lost Manhood, Debility, Lack of Virility and Impotency."

"Recommended. . . . In Treating . . . Psychic Impotence. Atonic Impotence. . . . Prostatorrhea & Spermatorrhea."

These claims were declared false and fraudulent and, in May, 1921, judgment of condemnation and forfeiture was entered and the court ordered that the product be destroyed.—[*Notice of Judgment No. 9837; issued Jan. 27, 1922.*]

Patten's Lightning Salve.—In February, 1920, a quantity of "Patten's Lightning Salve," sold by John H. Patten, Mountain View, Mo., was shipped from Missouri to Illinois in violation of the federal Food and Drugs Act. When analyzed by the Bureau of Chemistry the product was found to consist of camphor, turpentine, soap, rosin, tallow, beeswax and petrolatum. It was labeled as an effective remedy and cure for piles, fistula, rheumatism, carbuncles, blood poison, eczema, diphtheria, croup, pneumonia, all throat and lung troubles, kidney, liver and bowel troubles, sore eyes, backache, female

trouble, deafness, spider bite, diabetes, cancer and other conditions too numerous to mention. Naturally, these claims were declared false and fraudulent. In April, 1921, Patten pleaded guilty and was fined $10 and costs.—[*Notice of Judgment No. 9833; issued Jan. 27, 1922.*]

Correspondence

"AMERICAN MEDICAL AID FOR RUSSIA"

To the Editor:—As one looks over the situation of medical practice and health services throughout the world at the present time, there is one outstanding and desperate condition of immediate concern to us as physicians: the almost total destitution of physicians in Russia. The entire lack throughout the country in hospitals, relief camps, cities and villages, of the most elementary supplies, instruments and drugs, appliances and dressings used in diagnosis, treatment and prevention of disease, makes the position of our fellow practitioners in that terribly afflicted land pitiful in the extreme.

No amount of food and material relief in the form of clothing or supplies will render unnecessary the provision of those means by which the science of medicine is made effective in surgery, in medicinal therapeutics and in the control of contagion. A sincere effort is being made by physicians here and in other cities and states, in conjunction with the American Medical Aid for Russia Committee, 103 Park Avenue, New York City, to meet the urgent plea of the physicians of Russia for the simple tools of their trade, for the ordinary office supplies of soap, anesthetics, antiseptics and drugs to heal and relieve.

Every precaution has been taken by this organization to prevent such funds as are provided from falling into the hands of those who might abuse the generosity of donors or divert them to selfish or political ends. Supplies purchased in the cheapest markets are made available for the use of public hospitals in Russia through the commissioner of health of Moscow, with the approval and personal knowledge of a representative of the American Friends Service Committee.

This appeal is made that readers may be induced to bring this matter of medical relief to the medical associations of which they are members. Will not each physician himself, aided by his patients who receive here all of the benefits of a well equipped office, hospitals and professional facilities, give, and give generously in the name of American medicine?

HAVEN EMERSON, M.D., New York.
Chairman, New York State Campaign,
American Medical Aid for Russia.

"THE AMOUNT OF OPIATES USED IN THE LEGITIMATE PRACTICE OF MEDICINE"

To the Editor:—Dr. Alexander Lambert, in his article in THE JOURNAL, May 20, does not take into consideration the fact that only a small percentage of patients with incurable painful diseases in the terminal stage, when they require the largest amount of morphin, are treated in the hospital.

W. S. RAMBO, M.D., Rochester, N. Y.

To the Editor:—In his article in THE JOURNAL, May 20, Dr. Lambert states that about 2.25 per cent. of the population of the United States is ill each year, or "2,385,000" of the total population. This figure seems to me to be exceedingly small. While I have not the census figures available at present, it seems to me that more than a half of this morbidity rate could be taken care of by the mortality rate alone as estimated by the United States Census reports, if my impressions are correct, and I feel that I am correct, judging from my experience as a county health officer for a population of 13,000, in which there are nine practicing physicians, all of whom keep reasonably busy. Surely Dr. Lambert must prorate us more than 292½ patients when our city sexton buried fifty-nine residents in the local cemetery for an approximate population of 7,000, not a bad mortality rate, even though it may be or is incomplete.

No doubt the United States uses too much opium; but close figuring often seems to me to be poor argument, especially when an acute pain tempts prescribing medication stronger than benzyl benzoate. I prescribed an opiate about three times during the fiscal year ending June 30, 1922, but I do not treat the sick except in emergencies, and an occasional pauper.

H. D. ALLEN, JR., M.D., Milledgeville, Ga.
Commissioner of Health, Baldwin County, Ga.

"AN ABDOMINAL BANDAGE FOR PATIENTS WITH WHOOPING COUGH"

To the Editor:—The article by Dr. Paul Luttinger giving a description of an abdominal bandage he had devised for use in whooping cough (THE JOURNAL, May 20, p. 1536) called to my recollection a similar contrivance given me many years ago by one of those "mothers in Israel," then plentiful, now seldom seen. She used an old crash towel, that was soft and elastic. It was wide enough to extend from the margin of the ribs down, catching the crest of the ilia, with tapes over the shoulders and around under the buttocks. After the ends were fastened, slack enough being left to permit the hand to pass under easily, the tapes were fastened so that it would stay in place, whereupon the child could be turned loose and could whoop without suffering discomfort. This contrivance can be made by any ordinary mother.

GEORGE F. BEASLEY, M.D., Lafayette, Ind.

"PHYSICAL EXAMINATION OF FOOD HANDLERS"

To the Editor:—I note that Dr. L. B. Gloyne, commissioner of health and sanitation, Kansas City, Kan., writes in THE JOURNAL, May 13, with apparent approval of the working of an ordinance requiring the physical examination of food handlers, but that he says: "The greatest single good that has resulted from this ordinance has been the finding of a number of food handlers, with venereal disease, who have presented cards on which examining physicians have marked 'None,' without making any examination, under all headings that refer to venereal disease."

As one who has for many years been interested in public health and who has had some experience in public health work, as one to whom the examination of food handlers, in army or civilian life, for venereal disease is no new thing, but as one who likes to know reasons, I should like to know whether or not, in view of the statement above, the ordinance is worth while; whether gonorrhea in a cook or waitress is a source of danger to persons partaking of food cooked or served by them, so long as such persons partake of no other wares; whether a soda fountain dispenser with gonorrhea or a baker with a syphilitic ulcer on his shoulder is endangering the public by his food handling. (The baker was kept from his job for seven months.)

Is it worth our while or necessary or just or economic to disturb or temporarily destroy the means of livelihood of a worker or other citizen because of disease which, however disgraceful, is not a menace to the public through the exercise of that means of livelihood? For one must live, or feels that one must, even if one have gonorrhea or syphilis.

If we exclude from food handling persons who are carriers of or sufferers from such diseases as typhoid, dysentery, cholera, diphtheria, septic sore throat and others known to be transmitted through foods, are we not doing reasonably well?

Are gonorrhea, syphilis and chancroid more dangerous in a food handler than enlarged tonsils, pyorrhea, eczema, ringworm, boils, fistulas, suppurating middle ears or bromidrosis? If not, why not exclude from food handling persons with any of these?

If we exclude from certain occupations persons with diseases which are very rarely or never transmitted through the exercise of those occupations, who or what can guarantee that a change of fashion may not soon cause us to exclude from similar occupations persons with psoriasis, acne, lupus, baldness, varicose ulcers or other diseases which may be thought to resemble or to arise from syphilis, or which cause distaste in an observer?

Are our teachings and work founded on reason or on sentimentality?

I remain, Sir, an earnest seeker of information.

P. M. Ashburn, M.D., Carlisle Barracks, Pa.
Colonel, Medical Corps, U. S. Army.

ADVANTAGE OF SENDING QUESTIONNAIRES IN DUPLICATE

To the Editor:—The executive officers and members of the teaching staffs of medical and other educational institutions are in frequent receipt of questionnaires. If these questionnaires were invariably sent in duplicate, it would obviate the necessity of the recipient having to make a copy of the questionnaire with its answers for his own files. I believe that the publication of this letter would be the most efficacious means of calling this matter to the attention of those interested in the problem of medical education, and of facilitating the collection and preservation of such records.

J. T. Halsey, M.D., New Orleans.
Secretary, Tulane University
School of Medicine.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PROPHYLAXIS AND TREATMENT OF SEASICKNESS

To the Editor:—Please inform me concerning remedies for treatment of seasickness. If you publish this, kindly omit my name.

B. L. S., Milwaukee.

Answer.—The larger the boat, and the nearer its center one stays, the less liability will there be to seasickness. One should recline, warmly covered, on deck as much as possible, and keep the eyes shut so as not to notice the bobbing up and down of the horizon. Or, if possible, the eyes and the mind should be occupied by one's reading an interesting book or playing cards, resting at intervals with eyes closed. One should avoid all suggestions of nausea, such as the aspect of seasick persons or the sickening odors of the ship's kitchen, toilet, or engine room. One should avoid sudden movements, such as bending forward or getting up rapidly, quickly ascending or descending stairs, or fast dressing or undressing. One should also avoid getting too hungry as well as overdistending the stomach with food or drink. Some fruit should be eaten on rising or immediately before, and one should go to the meal just as it is about to be served, and begin to eat immediately. After eating, one should lie down for a short time. It matters little what one eats, provided one relishes it. One should not eat more than usually, excepting of fruits and vegetables, the latter to antagonize the tendency to constipation engendered by the change in habits. An aloe pill should be taken at bedtime any day on which the bowels did not move. A tight abdominal binder does no harm, and might, by producing a feeling of security, be at least of psychic value. Atropin sulphate, 0.5 mg. hypodermically, may be tried with or without strychnin sulphate, 1 mg., and the dose repeated once or twice hourly until relief or until incipient dryness of the throat or disturbance of vision gives warning that atropinism has been reached. Occasional repetition of the dose may be required to keep up the effect.

Complete rest with the body and the head horizontal is the safest and surest remedy. The cabin should be as well ventilated as possible. Sick persons should eat, no matter if they lose one meal after another. Vomiting something is easier than the endless retching of an empty stomach. Light, easily digested, small and frequent meals are indicated. They should be brought to the patient's berth. Swallowing small chunks of ice, and sips of lemon juice or of ginger ale are often grateful aids in dispelling nausea. The headache of seasickness may be relieved by eating, by coffee, or by coal tar analgesics, such as acetphenetidin. In obstinate cases, sedatives may have to be resorted to. Of these, barbital sodium, 0.5 gm., in suppositories is probably as good as any. In extreme cases, morphin sulphate, 0.01 gm., hypodermically, may have to be given, advantageously perhaps combined with scopolamin hydrobromid, 0.5 mg., repeated as often as necessary.

SALICYLATES — "NATURAL" AND "SYNTHETIC"

To the Editor:—It is my understanding that the theory that "natural" salicylic acid is superior to "synthetic salicylates" was exploded some ten years ago, and yet most physicians are still getting such letters as the above. Lest this should influence the thoughtless, it might be well to again publish a reminder.

E. F. Hoover, M.D., Enterprise, Kan.

Answer.—Dr. Hoover writes on a letter sent him by the Wm. S. Merrell Company in which is rehashed the definitely refuted claim that "synthetic" salicylic acid is inferior to the "natural" kind. The Merrell letter suggests that to avoid the defects of synthetic salicylic acid, the physician should specify "natural" and "Merrell" in writing prescriptions for sodium salicylate or any of the other salicylates. About ten years ago, the Council on Pharmacy and Chemistry instituted a thorough investigation of the asserted superiority of natural salicylic acid and salicylates over the ordinary or synthetic kind. This investigation included a chemical examination of the market supply, made by W. S. Hilpert in the A. M. A. Chemical Laboratory, a pharmacologic study by J. A. Waddell, then at the Western Reserve University Medical School, and a clinical trial. The chemical work consisted of an examination of eleven specimens ranging from the cheapest commercial bulk sodium salicylate to the high-priced "sodium salicylate from True Natural Oil of Wintergreen." The investigation showed that all the brands were essentially alike in properties and composition.

The study carried out by Waddell showed that, so far as toxicity is concerned, there is no essential difference between natural and synthetic sodium salicylate. In the clinical investigation, physicians with hospital facilities were supplied with "natural" sodium salicylate and "synthetic" sodium salicylate in such a way that they did not know which of their samples were "natural" and which were "synthetic." This clinical investigation was decisive. It showed that "natural" and "synthetic" sodium salicylate are indistinguishable so far as their therapeutic and toxic effects on patients are concerned.

In spite of the conclusive proof that the claimed superiority of natural salicylic acid over the ordinary kind—a claim based on a mixture of mysticism, commercial exploitation, misinterpretation and tradition—is without foundation, the Merrell Co. attempts to induce the medical profession to perpetuate this exploded fallacy. The firm suggests that "the slight increase in cost" of the "natural" product is justified by the asserted "comfort to the patient." This "slight increase in cost" is a matter of 2,400 per cent.; that is, whereas sodium salicylate of U. S. P. quality is offered at 85 cents a pound, the Merrell Company demands $22 a pound for its "natural" variety.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 11. Chairman, Dr. Samuel W. Welch, Montgomery.
ARIZONA: Phoenix, July 6-7. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.
CALIFORNIA: San Francisco, June 26. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.
COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.
CONNECTICUT: Hartford, July 11-12. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford.
CONNECTICUT: New Haven, July 11. Sec., Eclec. Bd., Dr. James Edwin Hair, 730 State St., Bridgeport. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.
DELAWARE: Wilmington, June 20. Sec., Homeo. Bd., Dr. H. W. Howell, 824 Washington St., Wilmington.
FLORIDA: Tampa, June 12-13. Sec., Dr. W. M. Rowlett, Tampa.
GEORGIA: Atlanta, June 7-9. Sec., Dr. C. T. Nolan, Marietta.
HAWAII: Honolulu, July 10. Sec., Dr. G. C. Milnor, 401 Beretania St., Honolulu.
ILLINOIS: Chicago, June 26. Supt. of Registration, Mr. V. C. Michels.
INDIANA: Indianapolis, July 11-13. Sec., Dr. W. T. Gott, State House, Indianapolis.
KANSAS: Kansas City, June 20. Sec., Dr. Albert S. Ross, Sabetha.
LOUISIANA: New Orleans, June 8-10. Sec., Dr. Roy B. Harrison, Hibernia Bank Bldg., New Orleans.
MAINE: Augusta, July 5-6. Act. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.
MARYLAND: Baltimore, June 20-23. Sec., Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.
MICHIGAN: Ann Arbor, June 13. Sec., Dr. Beverly D. Harison, 504 Washington Arcade, Detroit.
MINNESOTA: Minneapolis, June 6-8. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.
MISSOURI: St. Louis, June 12-15. Sec., Dr. Cortez F. Enloe, State House, Jefferson City.
NATIONAL BOARD OF MEDICAL EXAMINERS. Written examination in Class A medical schools. Parts I and II, June 19-23 and Sept. 25-29. Sec., Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Applications for the June and September examinations must be sent in, respectively, by May 15 and June 1.
NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, Lincoln.
NEW JERSEY: Trenton, June 20-21. Sec., Dr. Alexander MacAlister, State House, Trenton.
NEW MEXICO: Santa Fe, July 10-11. Sec., Dr. R. E. McBride, Las Cruces.
NORTH CAROLINA: Raleigh, June 26. Sec., Dr. Kemp P. B. Bonner, Morehead City.
NORTH DAKOTA: Grand Forks, July 4-7. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.
OHIO: Columbus, June 6-9. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.
OKLAHOMA: Oklahoma City, July 11-12. Sec., Dr. J. M. Byrum, Shawnee.
OREGON: Portland, July 4. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.
PENNSYLVANIA: Philadelphia and Pittsburgh, July 11. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.
RHODE ISLAND: Providence, July 6-7. Sec., Byron U. Richards, State House, Providence.
SOUTH CAROLINA: Columbia, June 27. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.
TENNESSEE: Knoxville, Memphis and Nashville, June 16-17. Sec., Dr. Alfred B. De Loach, 1230 Exchange Bldg., Memphis.
TEXAS: Austin, June 20-22. Sec., Dr. T. J. Crowe, 918-919 Dallas County Bank Bldg., Dallas.
UTAH: Salt Lake City, July 5. Director, Mr. J. T. Hammond, State Capitol, Salt Lake City.
VERMONT: Burlington, June 21-23. Sec., Dr. W. Scott Nay, Underhill.
VIRGINIA: Richmond, June 20-23. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.
WASHINGTON: Olympia, July 11. Sec., Mr. William Melville, Olympia.
WEST VIRGINIA: Martinsburg, July 11. State Health Commissioner, Dr. W. T. Henshaw, Charleston.
WISCONSIN: Milwaukee, June 27-29. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.
WYOMING: Cheyenne, June 5-7. Sec., Dr. J. D. Shingle, Cheyenne.

MEDICAL EDUCATION

A Student's Point of View *

ROBERT C. WALKER, M.A.
Undergraduate Student, University of Cincinnati College of Medicine
CINCINNATI

Student opinions in regard to teaching methods rarely find expression outside the confines of a limited circle. This fact is to be deplored. Although a student's point of view is bound to be in certain respects immature, it is on the development, during student years, of an individual way of looking at such methods that the direction of continued effort on the part of the student, and therefore the hope of the profession for future progress, depends. That there is a sad lack of development of any sort of a point of view among the vast majority of students may be in part due to the fact that student opinions seldom find expression. It is therefore with no apology that the following opinions and criticisms, which to me as a student are matters of vital interest, are offered. And though the opinions may seem a bit harsh in character, and the criticisms may appear unjustly destructive, it is only with the purpose of contributing a constructive note that this paper was written.

DOGMA

My theme is not palliative, nor is it directed only at symptoms. It points downward to the very basis and root causes of a condition which exists in our medical colleges which threatens a scientific profession. The causative agent of this condition is dogma, and its symptoms are manifested in the present-day professional teaching methods, which embrace with no apology unadulterated empiricism, the very antonym of scientific effort. In simple terms, it means that modern medical instruction demands of the student that he accept fixed theories as explanations in themselves, that he make of his mind a mere storehouse of unrelated and oftentimes unimportant observations, with little or no attempt at logical explanations which see farther than such fixed theories, and offers no incentive and little time for freedom of scientific thought.

Where, might we ask, does such dogma begin? It is safe to say it is encountered the very minute the student emerges from the classroom of the fundamental sciences. From an atmosphere of true scientific procedure where logic acts as guide, where every statement and experiment is subject to rigorous questioning, he passes into the influence of a system in which, in spite of the efforts of an enlightened few, empiricism dominates, in which the learning of masses of uncontrolled data becomes an end in itself; an atmosphere in which fixed theories are unquestioningly adopted and logical reasoning based on a knowledge of fundamentals is a matter of little concern. Hour upon hour, with notepad in hand, he is forced to sit in a lecture room and hear repeated, oftentimes word for word from a textbook, these masses of data which, grouped and classified, form the various clinical entities to which the name of some disease is given: a worthy procedure, indeed, if considered as a means and not as an end. But herein lies the fault: To the average medical professor, particularly to those of the younger generation, the mere carrying of such a mass of detail as data is a mark of self-sufficiency, and of his students he fails to demand or even to encourage a mastery of the fundamentals on which such detail depends.

THE DEMAND FOR DATA, NOT PRINCIPLES

Concrete examples are manifold. The entire field of clinical laboratory findings as taught throughout our years of clinical instruction is a perfect example of the method. Not only are a number of hours allotted to this important branch as a subject in itself, but practically every lecture on any phase of disease whatsoever is punctuated throughout with the laboratory findings to be expected. This is all very well, but let us inquire into the real value to the student of such data as given. The mere routine examination of the urine is a good illustration. For every disease we are required to memorize these findings, with virtually no consideration for the various simple and yet fundamental influencing factors. To be sure, some of these factors remain vague; but the many that are no longer obscure are passed almost unnoticed both in text and in lecture, and the paramount demand made on the student is not for principles, but for data—

* Read before the twenty-first annual convention of the Alpha Kappa Kappa Fraternity, Dec. 31, 1921, Cincinnati.

merely the empiric grouping of findings to form a clinical entity called by some name, and treated more often according to tradition than to logical procedure based on at least an attempted understanding.

Or, to take a more difficult procedure, and one the free discussion of which reflects a bit more credit on the scientific ability of the clinician, let us consider blood chemistry. We are required to learn, for instance, that the normal p_H value of the blood is 7.3, that the alkali reserve is 53, and so on through the category of blood findings for the normal person and for the disease in question. To a limited amount of this there is no objection; but what might be the meaning of the figures cited? What is meant by p_H value, and how is it arrived at? What do we mean by the figures expressing alkali reserve, and how is the reserve maintained? What are the most logical explanations of such findings, and what are the weaknesses of such explanations?

These questions pertain to the very fundamentals of metabolism, and yet during the later years of our medical course, when we are brought under the influence of average clinicians, all attempts toward any real understanding of such figures are cast to the wind, and we are required to tax our memory with the figures as empiric observations. We are influenced by example if not by actual advice to look at such basic principles as belonging only to the chemist, and to be satisfied with figures and words alone. Such examples could be extended to almost every phase of clinical instruction, not only as evidenced by the demand for empiric figures, but in many instances by the demand, or rather encouragement, of the acceptance of fixed theories as complete explanations. The entire field of the so-called metabolic diseases, from which even during the last few years we have seen whole chapters erased by a few men who refused to look at them as such, are typical examples, and still we are required to learn them as were our forefathers, the term "metabolic" being used as a satisfactory explanation.

What more glaring example can be found of such dogma than the demand made on the student to memorize in detail the orthodox classification of the various nephritides? How often he meets this question on hospital and state board examinations. And yet of what real value is such a minute study of these elaborate morphologic descriptions? Are there not certain principles which go far toward rendering the basic phenomena less obscure, and are not many of the accompanying symptoms which are taught even in our textbooks as merely accompaniments, made far more logical if studied from the standpoint of certain definitely established conceptions? And yet throughout colleges in general, during clinical years, the mastering of this overused classification is considered, in the eyes of the majority of professors, a satisfactory study of the field.

The subject of blood pressure which, as regards observation, is rapidly becoming a subject in itself, is a further example. The student on examination is made responsible for figures and symptoms galore, and yet rarely or not at all during clinical years do the various simple physical factors on which blood pressure depends receive emphasis.

The whole subject of therapy, which, after all, represents the goal of applied medicine, is taught almost entirely empirically. To be sure, much of it must remain so until new facts are brought to light, but why should a student be required to learn thousands of unimportant observations, when the small amount of, yet relatively far more important, information that may be had as to the why of the physiologic action of a few drugs is placed entirely secondary?

THEORIES AS EXPLANATIONS

As regards the demand for the acceptance of fixed theories as end explanations, numerous examples could be offered. The "toxin" theory of disease offered as a final explanation to so many abnormal conditions, the ready acceptance of syphilis as explaining in full myriads of disease processes, and the whole matter of the so-called "resistance" theory offered as the final explanation of disease are among the more familiar illustrations. How many times are we as students forced to listen to this oft-repeated phrase: "The occurrence of this condition is explained by one of two factors, increased virulence on the part of the organism, or decreased resistance on the part of the individual." That phrase, used as an explanation in itself, is an insult to a student's intelligence. Never was it intended by its originators to serve as more than a path for investigation, and yet in every college we have parrot-like professors who are thoroughly content at being able to explain disease so simply.

It is not merely such instances and many similar ones that I decry, nor is it the fact that the student must tax his memory with observations. It is the adoption and rigid following of a system that advocates such methods that demands our attention as students. And why should we be so concerned? Because the later part of our student work is largely under the influence of men who are, with few exceptions, the victims of this system, which demands the acceptance of such methods as the price of material success. "Accept and be popular, question and be damned" has ever been the materialistic attitude. A show of knowledge rather than knowledge itself is the keynote for touching the minds of the unthinking majority, and in medicine as in all professions it is such an element that dominates.

DETAILS AT THE EXPENSE OF FUNDAMENTALS

This situation in medical training is rapidly becoming more perilous. Investigation is constantly unearthing new observations, and such a show of knowledge as that to which I have referred demands that we be familiar with this maze of minutiae. The engrossing of the student's mind in detail at the expense of fundamentals is therefore becoming almost a necessity. Such detailed knowledge is indeed to be desired, but the price that the majority of students pay for it is too great. The task of committing to memory such a myriad of facts looms so large that soon any incentive the student may have had for questioning and for logical reasoning is lost, not because of any actual inability to master such detail, but because of a complete lack of encouragement, either by precept or by example, to delve deeper. He therefore becomes content to "get by," and falls for the popular criterion of "making grades." His assent is his redemption in the eyes of his successful superiors, and soon he works himself into a similar position. Thus the vicious circle is complete.

RESPONSIBILITY OF THE STUDENT

The question therefore arises as to how and by whom such a system is to be discouraged. Surely not by the majority of professors themselves, for, though a few among them in every institution actively fight it, these are in such minority and are the subject of such jealous criticism on the part of the majority that during their own day their influence cannot dominate. I insist that our hope for a better system lies with the students themselves. It consists, not of a policy of mere criticism, nor does it involve a passive attitude. It demands, first of all, the putting forth of increased effort, hard, uncompromising work; the mastery of detail where detail is essential, and the early development of a point of view that sees farther than the mere blind acceptance of "authority." Reading, study, thought, these are the essentials, and criticism caustic and unyielding whenever dogma is encountered, a criticism backed by effort well directed, and based on fundamentals learned in spite of the system under which we find ourselves placed. That is our hope for the future, and we as students must accept the responsibility.

Social and Industrial Medicine

A METHOD TO DETERMINE AMOUNT OF CARBON MONOXID IN THE BLOOD

The Department of the Interior has published the description of a method, devised by Sayers and Yant of the Bureau of Mines, for the quantitative determination of carbon monoxid in the blood. The method, it is claimed, is dependable and simple, involving the comparison of a small amount of blood similarly prepared with a set of color standards.

PROCEDURE FOR MAKING STANDARDS

To 5 c.c. or more of human blood is added 0.05 gm. of potassium citrate, or 0.02 gram of sodium fluorid for each 10 c.c. of whole blood. The blood thus obtained is divided into approximately equal parts, one of which is immediately diluted 1: 10 with distilled water; the other is first saturated with from 3 to 5 per cent. of carbon monoxid, and then diluted 1: 10 with distilled water. From these two solutions, one approximately all oxyhemoglobin, and the other approximately all carbon monoxid-hemoglobin, mixtures are made which total 1 c.c., but vary in carbon monoxid hemoglobin from none to 100 per cent. in steps of 10. To each standard thus prepared is added 1 c.c. of a mixture consisting of equal parts of a 2 per cent. strictly fresh pyrogallic acid solution, and a solution of 2 per cent. tannic acid. The standards are best kept in a test tube of clear, thin glass, about five-sixteenths inch in diameter. Immediately after the addition of the acid mixture, the tube should be sealed by melted paraffin poured over the contents. This temporary seal is sufficient until the walls of the tube become dry, when a cardboard disk is placed on top of the paraffin, and a permanent seal made by filling the remainder of the tube with ordinary sealing wax. These standards develop their full color within fifteen minutes, and, if properly sealed, remain permanent for several weeks.

TECHNIC OF THE DETERMINATION

In making an estimation of the carbon monoxid in the blood of a supposed victim of poisoning, there is measured into a test tube, of the same size and kind of glass used for the standards, 1 c.c. of a 0.05 per cent. solution of potassium citrate, or 0.03 per cent. sodium fluorid, depending on which anticoagulant was used in making the standards. The victim's finger tip is punctured, and with a capillary pipet 0.1 c.c. of blood is drawn up. The blood is discharged quickly into the solution in the test-tube, and 1 c.c. of the pyrogallic-tannic acid mixture, previously described, is added. The contents are thoroughly mixed and allowed to stand about ten minutes, and a color comparison is made with the standards, on each tube of which the percentage of carbon monoxid hemoglobin is noted.

The color gradation is so marked that an untrained observer can obtain sufficiently dependable results. The accuracy of the method has been checked by numerous determinations, and found well within the required limits.

A DEMONSTRATION IN PUBLIC HEALTH EDUCATION

The appearance, in 1916, of a number of cases of poliomyelitis in Ulster and Sullivan counties, caused the New York State Department of Health, as reported in its *Monthly Bulletin*, March, 1922, to make an investigation of health conditions in the district. Aside from the existing epidemic, insanitary conditions were found that involved the health of a quarter of a million summer vacationists. These conditions were due primarily to the rapid conversion of a mountainous farming district into a vast summer playground for families from the east side of New York City. Farm houses originally intended for five or six persons had been transformed into tenement houses accommodating from twenty-five to more than 100 without any additional water supply or facilities for the safe disposal of human waste. About 3,000 boarding and rooming houses are already in operation in the district, and more were being opened each season. Families began to arrive in May, usually rented one room for sleeping purposes, brought their own bedding and kitchen utensils, did their own cooking at the common household kitchen, and lived outdoors. The father and older children came up from the city for week ends. The houses filled an important place in the lives of their patrons, mostly immigrant Jews, who had saved and planned through the winter that the mother and children might have a vacation in the mountain district.

It was difficult to get the landlords to see the point of view of the health authorities in sanitation. No health regulations existed to meet the situation, and no one in the health department could talk to these people in their own tongue. This condition was brought to the attention of the directors of the Jewish Agricultural and Industrial Aid Society, who took it up with the state health department. The society decided to place an agent in this district tentatively with instructions to cooperate closely with the sanitary supervisor, and created an advisory committee of three physicians to advise them as to the best methods for starting the work. The state health department emphasized three factors in the program for improvement: the sanitary disposal of human waste, a safe water supply, and the protection of food from fly infection by screening kitchens and dining rooms, covering food, and the proper disposal of garbage. It was agreed that the Jewish Agricultural Society should carry on educational work with the landlords and the vacationists, and try to get their acceptance of local health regulations and their aid in enforcing them. The society established a bureau of sanitation at Ellenville, and was fortunate in securing a director who was deeply interested in the welfare of these people.

During the summer of 1919, representatives of the Jewish society, often accompanied by the state sanitary inspector, visited 370 Jewish farms, boarding houses and rooming houses. They showed the landlords how to manage the necessary sanitary installations, how to abate the fly menace, and gave informal talks to the vacationists. In this way, 10,000 persons received instruction in sanitation. Group farmers' meetings and public mass meetings were held three times weekly on the boarding house lawns, when lantern slides lent by the state health department were displayed. Thousands of pamphlets were provided by the U. S. Public Health Service and the state department of health, and the Jewish society distributed 10,000 circulars printed in Yiddish. The Jewish society's representative obtained permission to use auditoriums in some of New York City's public schools for instruction during the winter, since many of these people go year after year to this mountainous district. These public health lectures were attended during February and March, 1921, by audiences averaging 1,000 adults. Regular inspections were made of the farms and rooming houses, and reports sent to the Jewish society. A farmers' sanitary league was formed which gave a "diploma" each year to farmers whose premises passed the inspections. The "diplomas," which may be withdrawn for failure to maintain the standard, are much coveted and have created a pride generally in cleanliness.

The campaign of education in 1919 was so fruitful that in the following year a set of sanitary regulations were drawn up by the health authorities, and adopted by the town and township boards of health with but slight variations. It has taken four years of intensive work by the health departments, assisted by the Jewish Agricultural Society, to overcome the major difficulties, but a foundation in uniform sanitary principles has been made. Popular sentiment is now in favor of standing by the sanitary code, and in penalizing those who can in no other way be made to comply with the regulations. The demonstration is still going on, and thousands of children who annually visit the Sullivan-Ulster district are growing up with instruction in sanitation.

DISPENSARY ON THE APPOINTMENT BASIS

The clinic for children at Yale University Medical School now operates on an appointment system, such as was first worked out by Dr. Park under the American Red Cross in France. Dr. E. C. Dunham, chief of the clinic, said in *Mother and Child*, May, 1922, as far as he knows there is no other dispensary in the United States operating on a similar plan. The appointment system, as its name implies, is one in which patients are seen at appointed, prearranged hours, just as in the office of a private physician, the purpose being to give the patient the most efficient service in a manner which admits no delay, carelessness, or indifference. The benefits of an appointment system are obvious. The success of the plan depends on cooperation of the patients and those conducting the clinic. Since its adoption at Yale, the advantages and possibilities have become more and more apparent.

Book Notices

DER VERBAND. Lehrbuch der chirurgischen und orthopädischen Verbandchandlung. Von Fr. Härtel, Professor Dr. med. Oberarzt, der Chirurgischen Universitätsklinik zu Halle A.S., und Fr. Loeffler, Privatdozen Dr. med. Leit. Arzt der Orthopäd. Abteilung der Chirurgischen Universitätsklinik zu Halle A.S. Paper. Price, 456 marks. Pp. 282, with 300 illustrations. Berlin: Julius Springer, 1922.

This is an extensive treatise on surgical and orthopedic bandages, dressings and splints. The first part deals largely with standard roller bandages and with their application to different regions of the body. Under the second part, immobilization bandages, plaster of Paris and splints of all sorts are considered. Extension by tongs or nail extension to the skeleton are fully described. The third part contains a description of types of dressings and bandages and the therapeutic application to wounds. There is a brief historical sketch and an extensive consideration of solutions used for wet dressings and the treatment of infected and gunshot wounds. There is a consideration of the active and passive hyperemia treatment as advocated by Bier. There is a limited bibliography. It is a creditable work, and one of use to the general practitioner and surgeon. Some of the methods in popular use in this country are barely mentioned, and detailed mention would easily improve the work. It is valuable because of the completeness of the descriptions and the good illustrations of methods in vogue at a well known clinic in Germany.

THE HEART RHYTHMS. By Paul Dudley Lamson, M.D., Associate Professor of Pharmacology, Johns Hopkins University. Cloth. Price, $2.50. Pp. 100, with 52 illustrations. Baltimore: Williams and Wilkins Co., 1921.

This book is apparently an elaboration of the class-room notes of a teacher who aims to make his subject so plain that even the dullest student may understand. By diagrams, by offering a scheme of heart rhythms based on the point of origin of impulses, and by omitting consideration of confusing features he succeeds in his endeavor. The exposition is concise, orderly and clear. A very brief discussion of the electrocardiograph is given. The polygraph is more fully treated. This is because the author, rightly as we think, regards the electrocardiograph as too expensive, cumbersome and complicated for the ordinary practitioner, but feels that the polygraph, if carefully used by one who understands beforehand the nature of cardiac rhythms, is the more practical instrument. He considers the electrocardiograph, because it is more accurate and because of its greater scope, an important instrument for hospital work. Altogether, the book is to be warmly commended to the practitioner who desires a brief but reliable work which will help him to understand the irregularities of the heart and which will tell him how to use the polygraph.

THE TREATMENT OF COMMON FEMALE AILMENTS. By Frederick John McCann, M.D., M.R.C.P., F.R.C.S., Surgeon to In-Patients, Samaritan Free Hospital for Women, London. Cloth. Price, $3. Pp. 152 New York: Longmans, Green & Co., 1922.

There is a real need for a small book of this nature, but, unfortunately, the want has not been supplied by this literary endeavor. In all writings a general scheme should be planned and followed, and, in preparing a book there should be a correlation and sequence in the facts presented: the most glaringly evident feature of this volume is the absence of this planning on the part of the author or the publisher. The arrangement of the text throughout is painfully faulty. Repeatedly captions are given to paragraphs which bear little or no relationship to the substance presented. Nowhere is this utter lack of correlation more evident than in the chapters on abortion and puerperal infection. Chapter XI, on abortion, is a jumbled presentation of inadequate facts concerning the diagnosis of pregnancy, the diagnosis of various types of abortion, and the treatment of pregnancy and of abortion—a combination of presentation which is impossible. If Chapter XIV, on how to diagnose pregnancy, had preceded the chapter on abortion, there would have been small need of the repetition. Withal, the chapter on the diagnosis of pregnancy treats of the diagnostic features so faultily that it should be rewritten. Is it advisable to divide pregnancy into two halves for this purpose? Is it not infinitely more rational to use the time-honored classification of the three trimesters? Almost always, the fact of pregnancy is most difficult of recognition within the first three months. The diagnostic features in early pregnancy are inadequately stated. Under puerperal infection, page 111, there appear, in italics, the words *by disinfecting the genital tract from the vulva to the fundus of the uterus.* As far as our knowledge goes, this procedure is impossible and never has been done. Certainly, such a startling reference should be amplified so that one might know how to do the impossible. An epitome must have a clarity and terseness of phraseology so that facts given are self-evident—otherwise, words are meaningless: the confines of a small volume do not permit the elucidation by amplification and explanation found in a pretentious volume. This has not been kept adequately in mind by the author, as a result of which the book is of small value as a ready reference work. The book is replete with inexactness, crude diction and lack of thought in its preparation, and is certainly not worthy of recommendation.

AGRICULTURAL AND INDUSTRIAL BACTERIOLOGY. By R. E. Buchanan, Professor of Bacteriology in the Iowa State College of Agriculture and the Mechanical Arts. Cloth. Price, $3. Pp. 468, with 67 illustrations. New York: D. Appleton & Co., 1921.

The title of this book is a misnomer. According to the statement in the preface, it is intended to "lay a satisfactory and practical foundation" for more advanced and specialized work in the applications of bacteriology to agriculture and to industry. It therefore should present material for a course in general bacteriology, and this is exactly what has been done. The book parallels closely the author's "Bacteriology" (published in 1921) both in method of presentation and in content, with divergences which give more comprehensive discussions of certain subjects of particular interest to prospective agricultural students. As examples of this are the chapter on soil bacteriology and the sections describing animal diseases not commonly found in man. As a whole, however, it is difficult to see any great advantage which this book possesses over other textbooks designed to teach general bacteriology, even to students primarily interested in the agricultural and technical applications of the subject.

DAS HANDSKELETT IM LICHTE DER RÖNTGENSTRAHLEN. Von Dr. Arthur Grumbach. Paper. Pp. 155, with 26 illustrations. Leipzig: Wilhelm Braümuller, 1921.

This work, which covers an interesting phase of bone anatomy of the wrist and hand, is a thorough exposition of the variations found in the carpal bones, and is replete with references to related works of observers of all countries. It is a work of prime interest to the anatomist, to the surgeon dealing with injuries of the hand, and to the roentgenologist, who so often is puzzled by unusual and odd arrangements of the carpal bones. A careful study of the variations will prevent many an erroneous diagnosis in injury, a not unusual occurrence in these days of extensive use of the roentgen ray. The accessory carpal bones are described at great length, and to the casual student many strange terms appear, such as epilunatum, epipyramis, triquetrum bipartitum, paratrapezium and os vesalianum. The question of extra sesamoid bones is also studied with considerable thoroughness. The book is to be commended for its thoroughness.

L'ENCÉPHALITE LÉTHARGIQUE. Par le Pr. Achard, Professeur de Clinique Médicale a la Faculté de Médecine de Paris. Paper. Price, 16 francs. Pp. 324, with 15 illustrations. Paris: Librarie J.-B. Baillière et Fils, 1921.

This is a systematic treatise, covering the entire subject from history to treatment. That the disease is highly polymorphous in manifestation, the diagnosis frequently difficult, the prognosis most uncertain, the nature of the virus obscure and that no effective treatment has been discovered are clearly brought out. The discussion of mooted points is judicial; clinical pictures are clearly drawn, and the pathology is adequately presented. The extensive bibliography of nearly a thousand references will aid any one wishing to consult the literature.

Medicolegal

Liability of Hospital for Negligence of Nurse in Administering a Hypodermic

(Malcolm v. Evangelical Lutheran Hospital Association (Neb.), 185 N. W. R. 330)

The Supreme Court of Nebraska affirms a judgment, for an amount not stated, in favor of the plaintiff for damages for injuries suffered from the alleged negligent manner in which a nurse administered a hypodermic injection. The court holds that a hospital incorporated and conducted for private gain is liable to patients for the negligence of nurses and other employees, and that a hospital built and maintained by a private subscription and the subscription of stockholders, which declares dividends to its stockholders, and usually charges reasonable fees for services rendered, is not an eleemosynary institution, but one for private gain, responsible for the negligence of a nurse acting within the scope of her duties.

The plaintiff in this case, the court says, was a young man in robust health, who sustained a hernia. He contracted with the defendant for an operation at its hospital. About an hour before the operation, one of the hospital nurses went to his room and inserted a hypodermic needle into his right arm at an improper place and in a careless manner, at a point near the elbow, and then administered supposedly a preparation for the anesthetic to follow. The plaintiff complained then of a severe pain that extended down into his hand and fingers, saying that the nurse must have struck his "crazy bone," as his hand hurt as if that had been bumped. He again complained of the pain in his hand and elbow, immediately on his regaining consciousness after the operation, and from that time his hand was never entirely free from pain and discomfort. His right hand and arm became impaired and deficient in strength. A physician who made an examination of the injured member and inquired thoroughly into the history of the case traced the injury back to the hypodermic given at the hospital.

Did this hypodermic cause the injury and pain which immediately followed? Was the injury complained of the natural and proximate result of the hypodermic injection? Taking into consideration the health and strength of the plaintiff, and that his deficiency or weakness dated solely from the injection of the hypodermic, and from all the evidence in the record on this subject, it is plainly apparent, the court thinks, that the administering of the hypodermic injection by the nurse caused the injury complained of. The testimony of the plaintiff and the attending physicians clearly proved the situation. It was patent on the face of all the facts that the atrophy and the apparent diseased condition of the arm dated from the injection of the hypodermic needle by the nurse and that this was responsible for the situation and condition of the plaintiff. Whether or not the plaintiff's doing work delayed his getting well or caused an additional injury to his hand was purely a question for the jury, who evidently found no bad effects from his activity.

Power of State Board of Health Over Water Supply

(Purnell et al. v. Maysville Water Co. (Ky.), 234 S. W. R. 967)

The Court of Appeals of Kentucky affirms a judgment enjoining County Judge Purnell and the state board of health from trying the water company on a number of existing warrants and from issuing new warrants or instituting new criminal proceedings against the company for its failure to obey an order of the board of health to install a filtration plant. The court says that the one controlling question in the case was, What power has the board of health of the state of Kentucky, under Section 2057 of the Kentucky Statutes, to order and direct a water company furnishing an impure and objectionable supply of water to employ or adopt any one method, however well proved, to the exclusion of others, to improve its water supply and thereby abate the nuisance? The court has no doubt that the state board of health may, under this section, abate any nuisance in the state caused by filth which induces sickness. In this respect, the powers of the board are broad, but not unlimited, and must be exercised within a sound discretion, not whimsically or capriciously, nor arbitrarily. If the board of health in dealing with such matters does not exceed its powers nor abuse its discretion, its orders will be upheld by courts as final and conclusive. Here the water supply was improved so that it was said to be clear, soft, and suitable for all domestic purposes. While this was not brought about by the installation of a filtration plant by the water company, it had been accomplished by the provisions of sedimentation basins and chlorination of the water so that the same was not only clear but pure, wholesome, and free from *B. coli* and other dangerous bacteria which formerly infested and contaminated the water furnished the city.

Although, as stated, the board of health has the power to abate a nuisance, source of filth or cause of sickness, it has no mandatory power enabling it to direct the method by which the result shall be accomplished. It can only cause the abatement of the nuisance, and is not concerned with the method by which it is done. In other words, it may stop the furnishing of impure and dangerous water to a community; but it has no power to direct a water company to install any particular character of plant for sedimentation, filtration or chlorination of the water; and the water company may adopt any system that may seem best or expedient to it, if the system adopted produces the results desired. It, therefore, appears that the board of health, in directing the installation of a filtration plant by the Maysville Water Company, exceeded its authority under the statutes, and when it caused warrants to be issued against the water company, charging it with the offense of failing to obey the order of the board to the extent of installing a filtration plant, it acted without and in excess of its authority. It is the province of courts of equity to enjoin such acts or conduct of public officials when they lead to oppression and irreparable injury. As the judgment of the lower court granted this relief and no more, the judgment is affirmed.

Useless Treatment Not Required—"Visible Mark"

(Hunter v. Federal Casualty Co. (N. Y.), 191 N. Y. Supp. 474)

The Supreme Court of New York, Appellate Division, Fourth Department, in affirming a judgment in favor of the plaintiff under a policy of insurance against injury from accident, says that while he was lifting with all his strength to start a clogged grain elevator, it started suddenly, and he was thrown backward. He claimed that the sudden wrench that he got injured his back. He worked until night, but did not feel well. In two or three days, he called a physician, who ordered him to bed. Ten days after the accident he was taken to a hospital, but before he entered the hospital paralysis of the lower limbs had developed. The medical experts whom he called testified that the particular trouble from which he was suffering was caused by an injury. An expert who was called by the defendant testified that the plaintiff was suffering from an ordinary case of infantile paralysis. Under the evidence, it was a question of fact, and the finding of the jury in favor of the plaintiff was not against the weight of evidence.

As the policy contained a provision that indemnity should not be paid in excess of the time that the insured was under the regular treatment of a legally qualified physician or surgeon, and as the plaintiff was not under the regular treatment of a physician after thirteen weeks from the date of his injury, it was urged that, in any event, the recovery should be limited to that length of time. The physicians called as witnesses all agreed that there was absolutely no treatment that could have been given to the plaintiff that would have been of the slightest assistance. The provision of the policy was designed as a guard against fraudulent claims, and should be construed in view of the purpose which it was intended to serve. The construction to be given should be liberal, to carry out the spirit and purpose of the contract. The object of the clause being to guard against fraud, when it was manifest that there had been no fraud, it would violate the purpose of the contract to give the clause a literal, narrow construction. It seems to the court that the clause should be read

under the supposition that the use of the words "regular treatment" presupposed that some treatment would be possible, and when it appeared from the undisputed testimony of the physicians called by both the plaintiff and the defendant that no treatment was possible, then the words "regular treatment" were suspended, because the law will not enforce an idle or impossible formality. To illustrate: if the plaintiff, having in mind such condition of the policy, had instructed his physician to call on him regularly once a week and give him sugar and water, that would have been a literal compliance with the terms of the contract, if the physician said that such was the treatment which he gave him regularly once a week. Therefore, when it appears that it would have been nothing but a sham and an idle ceremony to have had a physician give "regular treatment" once a week, and that there was no treatment that could have been given that would have been of any value, the court should enforce the contract, on the theory that the clause in question assumed that some treatment of value could be given to improve the condition of the injured person.

There being a provision in the policy that, in the event of injury of which there was no visible mark on the body, the company's liability should be 20 per cent. of the amount otherwise payable, the court holds that the jury were correctly instructed that, by the term "visible mark," it need not necessarily be a scar or abrasion on the surface of the body, provided it be some manifestation or indication of injury, even though that injury might be internal. The plaintiff's physicians testified that he could not move his legs, and that the paralysis resulted from the injury. They also testified that on examining the roentgenograms they were able to discern that the vertebrae were slightly out of line, and that there was injury to the lateral processes of the vertebrae. This clause of the policy, like the other one referred to, was inserted for the purpose of preventing fraud, and should be given a construction which would carry out the purpose of the contract. It was conceded that the plaintiff was totally disabled. The jury, to whom the court left it to say whether or not, within the meaning of the policy, there was any visible mark on the plaintiff's body, considered that there was, and found for him the total amount claimed.

Custom of Nurses to Count Sponges Must Be Pleaded

(Tate et al. v. Tyzzer (Mo.), 234 S. W. R. 1038)

The St. Louis (Mo.) Court of Appeals affirms a judgment for $5,000 damages for the death of a woman from peritonitis, alleged to have been caused by the negligent leaving of a strip of surgical gauze or sponge in her abdominal cavity when an operation was performed for the removal of a diseased ovary. The court says that the evidence disclosed that peritonitis might be caused by things or causes other than leaving a sponge in the abdomen; but no such conditions were shown to exist in this particular case. Then, the defendant requested that the jury be instructed to the effect that, if they found from the evidence in this case that, in the performance of surgical operations in the city of St. Louis, at the time this operation was performed, it was the custom among ordinarily careful, skilful, and prudent surgeons, while performing abdominal operations, to leave to the nurses assisting in the operations the duty of counting the sponges used; that the defendant left the duty to two experienced nurses who were assisting in the operation; and that before closing up the wound he inquired of them as to whether all of the sponges were accounted for, and was informed that they were; then he was not negligent in failing to count the sponges himself, and had a right to rely on the count as correct; and, if he himself looked into the abdomen and could not, by exercising ordinary care, discover that any sponge was then in the abdomen, he could not be held for damages, even if a sponge was left concealed in the plaintiff's abdomen. Without passing on the question as to whether or not this instruction correctly declared the law under certain conditions, the court holds that there was no error in refusing to give it in this case, as it would have permitted the defendant to rely on a special and local custom to take his case out of the general rules of law when no such custom was pleaded by the defendant; nor was it shown that the patient had any knowledge of its existence. If a custom is relied on, it must be pleaded. And this is true even though the custom is relied on by the defendant, and the answer is a general denial. The instruction tendered in this case by the defendant, and refused, proceeded on the hypothesis of a custom existing among physicians and surgeons in the city of St. Louis. Such a custom was not pleaded, and therefore was not an issue in the case.

Damages Allowed for the Loss of Both Arms

(Carlson v. Payne, Agent (Minn.), 186 N. W. R. 291)

The Supreme Court of Minnesota says that the plantiff, who was 20 years old, was so injured while he was a member of a crew making up a train that he lost both arms, the portion of his right arm remaining being about 6 inches (15 cm.) in length, and that of his left arm about 4 inches (10 cm.) in length. The jury returned a verdict in his favor for $57,500 damages, with an additional allowance of $289.77 for fees of physician, hospital and nurse, or $57,789.77 altogether. The court, however, holds that this amount is excessive, and makes its affirmance of an order denying a new trial conditional on the plaintiff's consenting to reduce the award to $45,000, which the court declares is a larger sum than has ever before been sustained by this court.

Overlapping of Bones Indicative of Negligence

(Pelky v. Kivlin (N. Y.), 191 N. Y. Supp. 428)

The Supreme Court of New York, Appellate Division, Third Department, in affirming a judgment for $1,000 damages in favor of the plaintiff, says that he was in a hospital seven weeks under the defendant's care, for a broken leg. The defendant contended that at the expiration of that time there was no union of the bones. There was evidence that it was "an exception to have a case go seven weeks without knitting." The defendant offered no explanation of this unusual result. On the other hand, the plaintiff testified that the defendant told him from time to time that the bones were knitting and that the leg was progressing satisfactorily. From the evidence of the plaintiff and his wife and one of the hospital nurses, it appeared that there was an unusual protuberance on the leg when the plaintiff left the hospital. When he returned about a month thereafter, it was admitted that there was an overlapping of the bones, and this condition continued until the second operation, which gave a satisfactory result. There was no evidence of contributory negligence, except that the defendant testified that the plaintiff left the hospital prematurely and contrary to his orders; but this was denied by the plaintiff, who said that the defendant told him he might go home and return in about a month, which the plaintiff did. The evidence was such as to present a question for the jury; and their verdict was not against the weight of evidence. They found on sufficient evidence that when the plaintiff left the hospital there was a union of the bones, but that they overlapped. This was so unusual and contrary to human experience that it was within the province of the jury to say that the result was due to the negligence of the defendant, especially as the second operation removed the difficulty and left the plaintiff in a normal condition.

Liability for Treatment to Prevent Hydrophobia

(Austin v. American Railway Express Co. (Kan.), 200 Pac. R. 293)

The Supreme Court of Kansas says that the plaintiff was bitten by a dog suspected of having hydrophobia. The plaintiff's physician shipped the dog's head to Manhattan for the purpose of ascertaining whether or not the dog had hydrophobia. The box containing the shipment was marked, "Dog's Head, Rush." The defendant was informed of the accident to the plaintiff and the purpose for which the head was being shipped to Manhattan. The head was not delivered. The court holds that the defendant was liable for the expense of the shipment, the mental pain caused the plaintiff, the expense incurred for medical treatment to prevent hydrophobia, the pain caused by that treatment, and the damage sustained by loss of time while taking it, although the treatment proved to be unnecessary.

Society Proceedings

COMING MEETINGS

American Psychiatric Association, Quebec, Canada, June 6-9. Dr. C. Floyd Haviland, Drawer 18, Capitol Station, Albany, N. Y.

Colorado Congress of Ophthalmology and Oto-Laryngology, Denver, July 28-29. Drs. M. D. Brown and J. M. Shields, Metropolitan Bldg., Denver, Secretary.

Florida Medical Association, Havana, Cuba, June 30. Dr. Graham E. Henson, Jacksonville, Secretary.

Idaho State Medical Association, Wallace, July 10-11. Dr. E. E. Laubaugh, Overland Bldg., Boise, Secretary.

Maine Medical Association, Portland, June 27-28. Dr. B. L. Bryant, 265 Hammond St., Bangor, Secretary.

Massachusetts Medical Society, Boston, June 13-14. Dr. W. L. Burrage, 42 Eliot St., Jamaica Plain, Boston, Secretary.

Michigan State Medical Society, Flint, June 7-9. Dr. F. C. Warnshuis, 410 Powers Bldg., Grand Rapids, Secretary.

Montana, Medical Association of, Great Falls, July 12-13. Dr. E. G. Balsam, 222 Hart-Albin Bldg., Billings, Secretary.

New Jersey, Medical Society of, Spring Lake, June 20-22. Dr. William J. Chandler, South Orange, Secretary.

Southern Minnesota Medical Association, Rochester, Minn., June 19-20. Dr. Aaron F. Schmidt, Physicians and Surgeons Bldg., Minneapolis, Secretary.

Wyoming State Medical Society, Sheridan, June 20-21. Dr. Earl Whedon, Sheridan, Secretary.

AMERICAN PEDIATRIC SOCIETY

Thirty-Fourth Annual Meeting, held in Washington, D. C., May 1-3, 1922

The President, DR. MAYNARD LADD, Boston, in the Chair

Applied Dietetics in Outpatient Departments

DR. MAYNARD LADD, Boston: The Boston Dispensary Food Clinic might be called a demonstration of applied dietetics. A clinic organized along the lines of this one offers a training to students in medicine, public health, child welfare, nursing, dietetics and social service. A food clinic should become an established department of every well organized clinic for the treatment of ambulatory patients. Its development will depend on the extent to which public opinion supports the idea.

The "Splenopneumococcic" Reactions in Pulmonary Tuberculosis of Children

DR. P. F. ARMAND-DELILLE, Paris: A congestive reaction of the whole lung, giving the clinical type of the so-called "Grancher's splenopneumonia," seems to be peculiar to pulmonary tuberculosis in young persons. Often after a continued fever, called in France "Landouzy's typhobacillosis," the signs of consolidation of one of the lungs appear by degrees, sometimes first at the apex, sometimes first at the base. The diaphragm is not immobilized; the shadow is thicker in the median part of the lung than at the base. Often in the apex there is a clearer zone of disintegration, which gives the aspect of a cavity, corresponding to the cases in which auscultation gives râles, and corresponding to the focus of tuberculosis. In some cases the resorption is brought about by general physiotherapeutic treatment, especially with very well regulated heliotherapy, but it is always very slow. In other cases at a certain time it becomes a real caseous pneumonia with terminal large cavities. In a third group, a sclerosis appears with pleural adhesions. The occurrence of these special forms of splenopneumonic reactions is not rare. Out of 120 children, this condition has been observed in more than ten cases.

D'Espine's and Allied Signs in Childhood

DR. JOHN LOVETT MORSE, Boston: D'Espine believed that the bronchial character of the spoken voice did not normally extend below the seventh cervical spine, and that extension below this point was evidence of an enlargement of the tracheobronchial lymph nodes. He considered it always a later sign than the addition of the whispering sound to the spoken voice, and that it meant a more advanced process. He believed that extension of the bronchial respiratory sound and dulness on percussion below the seventh cervical spine were still later manifestations, and that they signified much more marked changes. A detailed analysis of 118 patients between the ages of 2 and 14 years made it fair to conclude that when there was no whispering voice sound after the spoken voice, the bronchial voice, whisper and respiration, and the spinal dulness did not extend below the seventh cervical spine and there was no intrascapular dulness, conditions were normal; but not when the extension was below the seventh cervical spine. The whispering sound after the spoken voice, D'Espine's sign, is often the earliest and only abnormality. It may, however, be absent when one or more of the other signs are present. The whispered voice is a somewhat more delicate test of pathologic changes in the tracheobronchial region than is the spoken voice. The respiratory sound has an intermediate value. The value of percussion over the spinous processes is about the same as that of the respiratory sound. Intrascapular dulness is a late sign, and is found only when the pathologic changes are considerable.

DISCUSSION

DR. WALTER R. RAMSEY, St. Paul: Dr. Morse has interpreted D'Espine's signs correctly, so far as I can determine. D'Espine uses a hard American stethoscope with a small bell.

DR. CHARLES HENDEE SMITH, New York: The whispered sound is more accurate than the speaking voice. The word bronchial is a very poor description. It is a tracheal or tubular sound. We should abandon the expressions positive and negative D'Espine's sign and say that the whispered voice extends to the first cervical or to the first, second or third dorsal vertebra.

DR. J. CLAXTON GITTINGS, Philadelphia: We have studied the cavities of spinal columns removed from frozen bodies after the muscles and connective tissue have been removed, and the conformation of the cavity is such that sounds over the spine have to be interpreted with a great deal of caution. There may be a dull sound below the first dorsal without apparently any sign of mediastinal disease.

Follow-Up Records of a Series of Patients with Bronchopneumonia

DR. WALTER LESTER CARR, New York: During a mild epidemic of influenza, the mortality was 8.5 per cent. for children under 2 years of age. The complete figures of a follow-up series from the City Hospital show the advantage of checking up patients after they have left the hospital, for hospital patients convalescent from an acute attack may have an extensive pneumonia within a few days. The mortality in such a series is difficult to give, and advantage should be taken of follow-up methods by social service workers.

DISCUSSION

DR. J. P. CROZER GRIFFITH, Philadelphia: There are three elements that affect the prognosis in bronchopneumonia in children: (1) the age; (2) the fact that epidemics vary from year to year, and (3) other diseases which prevail at the time. Another factor which makes the estimation of mortality rates very difficult is the diagnosis. I have given up trying to find anything that can be stated to be average figures.

DR. CHARLES HERRMAN, New York: The great advantage of home as against hospital care is shown in the primary disease to which the bronchopneumonia is secondary. After the bronchopneumonia as a complication is present, the difference between home and hospital treatment is nil.

DR. CHARLES HENDEE SMITH: There is one method that will differentiate between lobar and bronchopneumonia, and that is the roentgen ray.

Hydrogen Ion Concentration of the Gastric Contents

DRS. W. MCKIM MARRIOTT, L. T. DAVIDSON and L. P. HARSHMAN, St. Louis: Hydrochloric acid, in common with other acids, exerts a marked bactericidal effect when present in sufficient concentration. It has some action in regulating the opening and closing of the pylorus. The effective acidity or hydrogen ion concentration is to a large extent dependent on the character of the diet. It has been shown that peptic digestion is slight at a degree of acidity less than p_H 4.0, but that from this point on considerable digestion occurs. In two thirds of the infants examined the acidity was quite sufficient to allow for considerable digestion of protein.

Bacteria, particularly those of the colon-typhoid group, are inhibited markedly by an acidity corresponding to p_H 5.0; at a p_H as acid as 4.0 practically complete inhibition and death of these organisms occurs. In a consideration of the acidity of the gastric contents of infants who were not normal, but were fed exclusively on breast milk, there was a marked variation from normal figures. In every instance the acidity was less than that corresponding to a p_H of 4.0. The acidity in the stomachs of the latter group averaged one-twentieth that of normal infants. The degree of acidity was insufficient for peptic digestion and not great enough for complete bacterial inhibition, and presumably below the optimum for effect on the pyloric sphincter and on the duodenal secretions. A study of the behavior of cow's milk in the stomach of the normal infant shows that the excess of buffer substance binds the hydrogen ions, and it appears that the infant's stomach does not respond by producing a sufficient amount of acid to overcome the excess of buffer substance. The removal or neutralization of the buffer substance may be accomplished to a certain extent, depending on the degree of souring attained. Such milk may be given to even young babies without the appearance of symptoms which result when cow's milk with unchanged buffer substance is administered. Metabolic experiments in infants have shown better absorption and retention of both organic and inorganic constituents during lactic acid milk feeding. The feeding of lactic acid in the presence of an excess of gastric acid actually results in a less degree of acidity than if the same infant was fed on breast milk. In the case of infants with lowered gastric acidity, for example atreptic infants, a more nearly normal hydrogen ion concentration of the gastric contents was obtained when lactic acid milk was fed than when breast milk was fed.

ACID MILK IN INFANT FEEDING

DR. HENRY L. K. SHAW, Albany, N. Y.: Acid milk is obtained from fresh, sweet, whole milk, which is covered with cheesecloth and allowed to sour for two days in a warm room until thick like junket. It is then churned in a small glass butter churn for several minutes until it resembles fluid milk. A heaping tablespoonful of sugar and one of flour for each quart are mixed into a paste with a little of the milk, and this is added to the churned milk and then boiled from three to five minutes while stirring. The addition of a little soured milk to fresh milk as a "starter" will cause sufficient souring in twenty-four hours. This can be fed without dilution to very small infants, although it is best to add from one-half to one ounce of water in each feeding for the first few days. In order to preserve the antiscorbutic value, one half of the formula is boiled, and the other half is added uncooked. The albumin in acid milk is more digestible and can be given to young infants in larger proportions than in sweet cow's milk. A bacteriologic study of these foods showed no growth of lactic acid organisms in the boiled foods, so that the favorable results must be due to the high acid content and not to the action of living lactic acid bacilli. Acidity determinations showed that the average acidity before boiling was 100, and after boiling 80. The high acidity exerts a germicidal effect. Malt soup mixtures made with acid milk have an average acidity of about 48. Made with plain malt extract, the acidity averages about 65. Babies fed on acid milk mixtures for a long period of time look healthier, and thrive better on the average than those fed on the regulation sweet milk formulas.

DISCUSSION

DR. H. J. GERSTENBERGER, Cleveland: Was there any special technic used in making the sour Keller's malt soup? Did you boil the mixture for three minutes or for a shorter time?

DR. THOMAS S. SOUTHWORTH, New York: Dr. Shaw spoke of the malt soup prepared in the usual way producing irritation of the buttocks and loose stools. When he speaks of preparing malt soup in the orthodox way, does he mean according to the directions on the package of Keller's malt soup? We have not always followed those directions, but have adapted them to the needs of the individual infant and in that way have not had the difficulties Dr. Shaw mentioned.

DR. DE WITT H. SHERMAN, Buffalo: A few years ago I described a method of using Bulgarian bacilli to produce lactic acid milk. We cultured boiled sterile milk and allowed it to stand at a temperature of 85 F. over night. In the morning it was found to be of approximately the correct acidity. It was then boiled again and put on ice. An even simpler method is to culture the boiled milk and allow it to stand in a warm place for twenty-four hours, when the acidity will reach 180 or 190, an acid reaction of sufficient degree to destroy the Bulgarian bacillus. This is an easy way to obtain lactic acid milk that is fairly satisfactory. Lactic acid milk, acting as a stomachic, increases the relaxation and contraction of the gastro-intestinal musculature and thus increases the peristaltic wave, and this results in an increase of the other three functions. Lactic acid milk is a safe food for infants, and may be fed for a long time.

DR. HENRY KOPLIK, New York: I agree with Dr. Sherman. Finkelstein laid stress on the method of preparation, and his success in feeding protein milk was due to the fact that he obtained a definite uniform preparation every day. It is dangerous to give acid milk prepared by allowing the milk to sour. There is danger that such a milk will cause diarrhea. If fed on acid milk too long, certain children get a form of edema, and older infants will not take it. There is no panacea in acid milk or in protein milk.

DR. HENRY L. K. SHAW, Albany: The way in which we prepared the malt soup mixtures with acid milk was to boil the milk and add the malt flour and sugar.

Three Cases of Acute Encephalitis Treated with Specific Serum

DRS. HENRY F. HELMHOLZ and EDWARD C. ROSENOW, Rochester, Minn.: In three cases of undoubted encephalitis, the effect of the injection of Rosenow's antiencephalitic serum was striking. We do not claim that the specific serum was the curative factor in these cases; all we can say is that after the injection of the serum there was a decided improvement in the general condition of the patient and a complete clearing up of the nervous symptoms. Furthermore, it has been shown by animal experiments that the serum can protect animals from intracerebral injections of the streptococcus, which is not the case with normal horse serum.

Blood in Breast Milk

DR. ISAAC A. ABT, Chicago: I noted the occurrence of a chocolate colored milk in a primiparous woman very shortly after the birth of the baby. The mother and baby were apparently normal in every other respect. This condition may occur as a result of a variety of conditions.

The Rate of Secretion of Breast Milk

DR. CHARLES HENDEE SMITH and KATHERINE K. MERRITT, New York: A normal baby fed on one breast need nurse, as a rule, only from eight to ten minutes. The normal baby takes from 40 to 60 per cent. in the first four minutes. After eight or ten minutes very few babies get any milk whatever. This holds true whether the supply is abundant, moderate or scanty. A few larger infants may get small amounts of milk up to sixteen minutes. The babies who need both breasts usually get less from the second than from the first, except when one breast regularly yields a better supply. The rate at which a baby gets milk from the second breast is similar to that of the first breast, though the time after which the baby gets no more milk from the second breast is usually shorter than from the first. Poor feedings are completed in a relatively shorter time than good ones. When the breast supply is evidently failing, the baby obtains all he can get in from three to five minutes, as a rule. It does no good to leave a baby a longer time at a failing breast with the hope of eking out a meager supply.

DISCUSSION

DR. CHARLES HERRMAN, New York: Most babies nurse for too many minutes. In order to be sure that the baby is receiving a proper amount of milk, frequent weighings before and after nursing are necessary. There is no rule that is applicable at all times, even in the same baby. In hospital

practice a great deal of time is consumed by nurses who are in charge of bottle fed babies, because the hole in the nipple is made of such a size that it takes the baby from fifteen to twenty minutes to get the milk. If the baby can take the milk in eight or ten minutes a great saving of time will result, and the nurses will be free to attend to other duties.

DR. ROYAL STORRS HAYNES, New York: At the Sloane Hospital we have had no breast nursed longer than eight minutes, and since we have instituted this practice we have noticed an appreciable diminution in the number of cracked nipples.

(To be continued)

AMERICAN SOCIETY FOR CLINICAL INVESTIGATION

Annual Meeting, held at Washington, D. C., May 1, 1922

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Value of Sodium Bicarbonate in Treatment of Diabetes Mellitus

DRS. H. O. MOSENTHAL, J. A. KILLIAN and V. C. MYERS, New York: It has been known for a long time that sodium bicarbonate aids the elimination of acetone bodies in the urine in cases of diabetes mellitus. By some observers the objection has been raised that this increased acetonuria did not necessarily signify a removal of retained acid substances, but that the sodium bicarbonate was responsible for the excretion of beta-oxybutyric acid, diacetic acid and acetone, which would have been metabolized along normal channels had the alkali not been administered. This problem was investigated by giving sodium bicarbonate to diabetic patients who were on a constant diet. The acetone bodies were determined quantitatively in the blood and in the urine. It was found that the acetone and its allied substances increased in the urine and diminished in the blood when sodium bicarbonate was administered. It may therefore be concluded that sodium bicarbonate serves to aid the excretion of beta-oxybutyric acid, diacetic acid and acetone in the urine and that it diminishes them in the body, thereby lessening the dangers attendant on diabetic acidosis.

DISCUSSION

DR. E. P. JOSLIN, Boston: During the first three days after sodium bicarbonate, the acid bodies in the blood increased. This is unfortunate because the patient threatened with diabetic coma is dead in three days. Of 500-odd patients treated at the New England Deaconess and other hospitals, five, or 1 per cent., died of coma. None of these patients received alkalis.

Studies on Pneumococcus Immunity

DRS. RUSSELL L. CECIL and GUSTAV I. STEFFEN, New York: In a previous study it has been shown that monkeys can be completely immunized against pneumococcus Type I pneumonia by three subcutaneous injections of pneumococcus Type I vaccine. In the present study, similar experiments have been carried out with pneumococcus Types II, III and IV. Complete immunity was obtained in the Type II experiments, and partial immunity in the Type III experiments. Only one Type IV experiment was undertaken. In this experiment none of the vaccinated monkeys contracted pneumonia, but the infection in the control was also very slight. Complete immunity was also obtained in monkeys by three intratracheal injections of pneumococcus Type I vaccine. This immunity was adequate even when small doses of vaccine were employed. An attempt was made to immunize monkeys by spraying them with an atomizer containing pneumococcus vaccine. This experiment was unsuccessful, probably because so little of the vaccine got into the trachea.

Relation of Normal Bacterial Flora of Mouth to Mucous Membrane

DR. A. L. BLOOMFIELD, Baltimore: It was found that intensive cleansing of the tongue by various mechanical procedures led to no marked quantitative or qualitative change in the flora. Foreign bacteria placed on the tongue could on the other hand for the most part be readily removed. The conclusion is therefore drawn that the site of growth of bacteria in the mouth is in the mucous membrane, just as has been shown to be the case with staphylococcus in the normal skin.

Blood Gases in Auricular Fibrillation and After Restoration of the Normal Mechanism

DRS. HAROLD J. STEWART and EDWARD P. CARTER, Baltimore: In the series of cases studied, all patients were put to bed on admission. If there were any signs of cardiac failure, they were digitalized before the quinidin therapy was begun. Then the control arterial and venous blood was taken. After reversion to the normal mechanism under quinidin sulphate, arterial and venous samples of blood were again taken. The blood was drawn without stasis under liquid petrolatum as described by Stadie and by Lundsgaard, the arterial and venous samples being withdrawn within from three to five minutes of each other. Either the brachial or the radial artery was used. The blood was drawn at least two hours after the previous meal and after the patient had been lying down at absolute rest for at least thirty minutes. An electrocardiogram, vital capacity and blood pressure were taken either just before the rest period or after drawing the blood samples. Normal vital capacity readings were calculated from the Du Bois height-weight chart. All analyses were done in duplicate; the original method described by Van Slyke for oxygen and carbon dioxid was first used, the later analyses being done by the combined method of Stadie and Van Slyke. In all analyses the new corrections for physically dissolved oxygen and nitrogen were used.

Eleven cases of auricular fibrillation with reversion to normal mechanism are included in this report. In nine, studies were made while in fibrillation and after restoration of the normal mechanism. In two, no studies were made in the presence of fibrillation, but they showed progressive improvement with persistence of the normal mechanism.

Of the nine cases, seven showed a decided improvement in the blood gases following restoration of the normal mechanism, while two showing no improvement in the blood gases showed a striking improvement clinically.

The explanation for the consistent finding of a reduction in percentage of arterial oxygen saturation with the onset of the normal mechanism, followed later by an increase in the percentage of arterial oxygen saturation to the normal (except in two cases of emphysema) seems to be in the blood flow. During fibrillation the blood flow is probably slow and the blood in the lung capillaries has time to become fully oxygenated; with the onset of the normal mechanism and improvement in the blood flow, the blood is not in the capillaries so long and full oxygenation does not take place. Later, however, there is compensation for this, and the arterial saturation returns to normal.

In seven cases there was definite increase in venous oxygen saturation and diminution in the coefficient of utilization pointing to an improved blood flow. In two other cases there was an improvement with continuance of the normal mechanism. After the onset of the normal mechanism, there was a constant finding of increased vital capacity. In three cases with high oxygen capacity and two others with lower oxygen capacity there was a distinct fall in oxygen capacity after the normal mechanism, indicating probably that the high hemoglobin carried was a compensatory mechanism. One patient with rather severe anemia had a gradual rise in oxygen capacity under the normal mechanism, and three others with moderate anemia showed improvement of oxygen capacity after the normal mechanism.

Paroxysmal Rapid Heart Action, with Special Reference to Roentgen-Ray Measurements of the Heart in and out of Attacks

DRS. SAMUEL A. LEVINE and ROSS GOLDEN, Boston: A group of patients who had paroxysms of rapid heart action were studied, particularly because in those conditions rapid transition occurs from a normal heart rate to an extremely fast one and then back to normal. One might expect to see more striking changes in the heart's diameter under these circumstances than during gradual cardiac failure. Furthermore, these cases have been frequently referred to as instances of acute dilatation of the heart. Eleven patients were

studied. Five had paroxysmal auricular tachycardia, three had paroxysmal ventricular tachycardia, one had paroxysmal auricular flutter and two had paroxysmal auricular fibrillation. Roentgen-ray measurements of the size of the heart were made during the attacks and during the normal slow heart rhythm. In four instances the roentgenograms were taken at a distance of 30 inches, and in seven at 7 feet. In all cases the customary care was taken to have the patient in about the same position for the comparable examinations. A difference of 0.5 cm. in the total transverse diameter of the heart is considered to be within the margin of error of the method. It was found that in eight patients no appreciable dilatation occurred. In two it was definite but slight, and in one it was considerable. It must be admitted that changes of 0.5 cm. at the left or right border of cardiac dulness cannot be determined by percussion and palpation with any degree of certainty. The results obtained in the roentgen-ray studies therefore indicated that in ten out of eleven cases it would have been impossible to detect any changes in the size of the heart by ordinary bedside methods, and that appreciable dilatation is an uncommon event during attacks of paroxysmal rapid heart action.

In seven of the cases, blood pressure readings were made during the attack and at varying times after the normal rhythm had been restored. The general conclusion from these observations is that the systolic blood pressure is likely to fall and the diastolic pressure to rise, resulting in a low pulse pressure. In one instance the pulse pressure was very low, i. e., 8 mm., and it readily explained certain unfortunate events that occurred in previous attacks that the patient had, such as dry gangrene of the entire left arm, right hemiplegia and aphasia. This was the only case that showed marked dilatation of the heart.

It is suggested that the amount of dilatation and the decrease in pulse pressure are dependent on three factors: the duration of the attack, the rapidity of the ventricular rate during the attack, and the general state of health of the heart before the attack occurs. The more rapid the ventricular rate during the attack, the longer the duration of the attack; and the more damaged the heart before the attack, the greater will be the change in the heart's size and in the blood pressure readings. In several instances a leukocytosis even as high as 20,000, and a temperature of 100 developed with the attack, and quickly subsided as the heart returned to normal. This did not seem to be due to an intercurrent infection but rather a specific result of the rapid rate.

Results with Quinidin in Heart Disease

DRS. B. S. OPPENHEIMER and HUBERT MANN, New York: We have observed forty-one cases of auricular fibrillation treated with quinidin. In eighteen (44 per cent.) of these the fibrillation was arrested. In three there was a change to pure flutter. Elsewhere, fifteen patients with fibrillation received quinidin, of whom six (40 per cent.) responded by a return to sinus rhythm. These fifty-six cases, with those published by others, total 462 cases of fibrillation, of which 248 (53.7 per cent.) responded with a return to sinus rhythm. The duration of the change to sinus rhythm is usually temporary, but we have under observation cases which after a single series of quinidin are still regular after a period of eleven, ten, seven and three months, respectively. Six others have remained regular for varying periods under one month, and are being followed. Another group of six cases broke back again to fibrillation within three months. One case responded to a short series of quinidin eight times during a hospital stay of seven months. The underlying condition, such as valvular defect, cardiovascular-renal disease or thyroid condition, associated with the fibrillation, seems to bear no relation to the duration of the favorable effect, nor does the age or sex of the patient appear to be a factor. One man, aged 69, maintained a regular rhythm for six and one-half months; then fibrillation returned. The clinical improvement noted has been subsidence of palpation, dyspnea and edema. One patient was known to be suffering from fibrillation for two years, that is, from May 17, 1919, until June 24, 1921, on which date her heart became regular after a series of quinidin. She has had no return of her fibrillation since that single series of quinidin, has done all her own housework, and has survived a severe attack of influenza.

We have had no disastrous results, nor have there been any symptoms due to embolism. In fact, we think that the increased danger from embolism during the transition from fibrillation to coordinate auricular contractions has been somewhat exaggerated. During the course of auricular fibrillation, embolic phenomena, more particularly cerebral embolism, are not rare. Indeed, we have had two patients who, during the course of auricular fibrillation, had hemiplegia apparently due to emboli; but both subsequently responded to quinidin by a change to sinus rhythm without suffering from a recurrence of symptoms of embolism, either during or after the transition. One interesting case seen with Dr. Barringer responded several times to quinidin with auricular flutter and 2:1 heart block, with a regular ventricular rate of from 110 to 120 a minute; during those periods his symptoms of heart failure were greatly diminished. The combination of atropin with quinidin in such cases as failed to respond to quinidin alone gave us no better results, but did seem to reduce the disagreeable subjective symptoms of the latter drug. Clinical observation has given us the impression that digitalis tends to perpetuate auricular fibrillation not of the paroxysmal type, and to establish it more firmly. One patient twice developed tachycardia of ventricular origin during the administration of quinidin, and of course each time the drug was immediately discontinued to avoid the risk of ventricular fibrillation. In order to have a warning of this danger, we have made it an invariable rule not to treat cases of auricular fibrillation with quinidin without electrocardiographic control.

Experimental Production of Spasmodic Torticollis in Animals

DR. EDWARD C. ROSENOW, Rochester, Minn.: Spasmodic contractions of various muscles, especially those of the head and neck, occur frequently during attacks of encephalitis, and persist in some instances long after apparent recovery. In animals, tic-like movements of the head have been a common sequel to attacks of encephalitis induced by the intracerebral injection of a somewhat peculiar streptococcus isolated from cases of encephalitis. It was thought that in some instances spasdomic torticollis might be of infectious origin. The technic was similar to that used in experiments on encephalitis and epidemic hiccup. Four cases have been studied. The duration of the condition ranged from six weeks to four years. Of twenty-five rabbits injected directly with salt solution suspension or with primary culture, eleven (44 per cent.) developed tic-like movements of the head. Of fifty-one rabbits injected with the streptococcus isolated from these, twenty-four (47 per cent.) developed spasmodic movements of the head as a prominent symptom, while in the third animal passage only two (20 per cent.) of ten rabbits injected developed this condition. In the animals that died early from encephalitis, the movements of the head were only one of a series of findings, whereas in those that recovered from the acute symptoms these movements often were the only trace of the disease. In the animals, as in the patients, the movements of the head ceased during sleep, continued at intervals most of the time when awake, and were made worse by various forms of excitation. The type of movements in the patients often dominated the picture in the animals.

Slight or moderate turbidity of spinal fluid, due to leukocytes, a low grade leukocytic infiltration in the meninges and around blood vessels, and focal hemorrhages and necrosis in the substance of the brain were the usual microscopic findings in the animals that died in from twenty-four to forty-eight hours after injection. Perivascular and focal leukocytic and round-cell infiltration in varying proportions, depending on the duration of the experiment, was the chief finding in the animals that lived for a longer period. In the former, the demonstration of the streptococcus in the tissues was readily accomplished by cultural means and microscopically; in the latter, this was difficult, and sometimes impossible. In some of the animals the movements of the head persisted for weeks, with periods of exacerbation and remission. Positive results were obtained with some of the strains after rapid transfer through many culture generations. Filtrates gave uniformily negative results. The streptococcus was culturally and morphologically similar in each case studied. On blood-agar plates it produced small, dry, flat, sometimes

umbilicated colonies surrounded by a greenish zone. In glucose-brain broth it produced a diffuse, sometimes a distinctly granular growth. Smears showed nonencapsulated gram-positive diplococci singly or in short chains, of quite uniform size and shape in young cultures, but of pleomorphic shape and size in old cultures. The different strains were all of a low grade of virulence for mice. Two of the strains were agglutinated by my monovalent antiencephalitis serum and by my antipoliomyelitis serum, but none by the type antipneumococcus serums.

Newer Conceptions of Pathogenesis of Infections of Biliary Tract, with Special Reference to Nonsurgical Drainage

DR. EVARTS A. GRAHAM, St. Louis: Cholecystitis is usually an interstitial inflammation of the gallbladder which involves the whole wall more or less and is not at all confined to the mucosa. Just as the gallbladder is merely a part of an elaborate system of biliary ducts, so an inflammation of the gallbladder is always accompanied by inflammation of other parts of the biliary duct system. Microscopic examination of pieces of the liver removed at operation in cases of cholecystitis always reveals a coexisting hepatitis. The intimate lymphatic anastomosis between the gallbladder, the liver, the common duct and the pancreas leads to rapid extension of an inflammation to involve all of these organs. There is much evidence, both clinical and experimental, to show that cholecystitis frequently begins as a hepatitis, and that the infection spreads to the gallbladder from the liver by way of the lymphatics. The hepatitis may originate in any infection of the portal system, as, for example, in an inflamed appendix, a typhoid ulcer, a duodenal ulcer or a suppurating hemorrhoid. There is very little evidence which would indicate that an infection limited to the mucosa of the gallbladder is anything more than an exceptional occurrence. Experimentally it is almost impossible to produce a cholecystitis by direct introduction of bacteria into the lumen of the gallbladder. Drainage of any kind, to be effective, should remove the products of inflammation. On theoretical grounds it would seem doubtful whether any procedure, either surgical or nonsurgical, which would aim merely at draining the lumen of the gallbladder, would be effective in the treatment of most cases of cholecystitis, since the inflammation is not confined to the surface of the mucosa but is spread through the wall. Extirpation of the inflamed gallbladder is the quickest and surest way of breaking up a vicious circle which frequently exists between the gallbladder and the liver.

DISCUSSION

DR. EMANUEL LIBMAN, New York: The observations reported by Dr. Graham are naturally of great interest. They may very well explain the occurrence of lesions in the pancreas that otherwise would be explained as being due to venous thrombosis. In cases of pylephlebitis there was found a small abscess in the head of the pancreas. This could not be traced at the time to a thrombosis in any vein near the abscess. Recently, I saw a case in which an abscess in the head of the pancreas developed quite a long time after the patient had been operated on for an acute attack of cholecystitis due to calculi.

Behavior of Certain Phosphorus Compounds in Normal and Diabetic Metabolism

DRS. W. S. MCCANN, G. CANBY ROBINSON and R. R. HANNON, and MR. W. A. PERLZWEIG, Baltimore: The literature contains many instances of the importance of phosphates in the metabolism of carbohydrates; the demonstration of the rôle of phosphates in the fermentation of sugars by yeast (Harden and Young); the demonstration in mammalian muscle of the presence of a similar hexose phosphoric ester, which is the probable precursor of the lactic acid used in muscular contraction (Embden and Laquer); the rôle of phosphorus in the in vitro oxidation of glucose (Witzemann); the knowledge of a disturbed phosphorus balance in diabetes (Mandel and Lusk); reports of clinical improvement following the administration of various phosphate compounds to diabetics (von Morazewski), and, finally, evidence suggesting the importance of phosphorus compounds in biologic oxidative processes in general (Kovaliova, Abderhalden).

Our investigations of the phosphorus metabolism in diabetes have commenced with a study of the effect on the respiratory exchange of the oral administration of a hexose phosphoric ester, and of glycerophosphates, of inorganic phosphate alone and with glucose. Graphic charts have been prepared for some of the experimental data obtained by measuring the respiratory exchange by the Tissot method, measuring the urinary nitrogen and calculating the nonprotein oxidations by the method of Zuntz and Schumberg. These experiments show that, following the oral administration of calcium hexose phosphate (from 30 to 60 gm.), the respiratory quotients and actual carbohydrate utilization are steadily increased during a two hour period. This effect is in contrast to the effect of glucose given in control experiments, which causes a diminution in the respiratory quotient for from forty minutes to one hour after ingestion, though it rises later, as a rule. This difference in behavior of the hexose phosphate is probably due to the fact that the glucose esters of phosphoric acid yield fructose on hydrolysis. Fructose is known to cause a prompt rise in respiratory quotients, even in diabetics.

Calcium glycerophosphate, when given to diabetic subjects, caused a rise in the respiratory quotient, and in carbohydrate utilization during two hour observations. Normal subjects, with one exception, were unable to retain this substance in the stomach. In the one normal subject, no effect on the respiratory exchange was observed. Inorganic phosphate ingested alone produced no change. Inorganic phosphate ingested with glucose produced a remarkable depression in the respiratory quotient, so that at the end of two hours the nonprotein respiratory quotient was 0.667, indicating that the glucose had probably been converted into ethyl alcohol and metabolized as such. In one experiment, 200 c.c. of isotonic sodium glycerophosphate 6.5 molecular at a p_H of 7.3 was injected intravenously in a diabetic subject. The nonprotein respiratory quotient was 0.721 before, after one hour 0.697, after two hours 0.737. It was hoped that the excellent buffer properties of this substance combined with the antiketogenic effect of glycerol might have been useful in acidosis. No undesirable effects were noted, yet there was no evidence of a useful antiketogenic effect.

Tricalcium phosphate, hexose phosphate and glycerophosphate were given to three young severely diabetic subjects in order to study the effects on phosphorus balance, and to see whether there was any influence on carbohydrate tolerance attributable to phosphate administration. The first two cases showed remarkable improvement in tolerance. The third did not improve. The first case was brought under control by a slight modification of Woodyatt's regimen, and it is probable that his entire improvement is attributable to the use of Woodyatt's methods. In the second case the diet was adjusted so that there was excretion of sugar in the urine throughout, and during the administration of phosphates the daily carbohydrate intake was increased steadily. A great increase in utilization of carbohydrate occurred, with normal blood sugar figures. Spontaneous improvement in tolerance under such a regimen seems unlikely, and a favorable effect may be attributable to phosphate administration. In the third case, hexose phosphates administered during the stage in which marked glycosuria and hyperglycemia were still present resulted in no improvement.

An Improved Alimentary Glucose Tolerance Test

DRS. CAROL BEELER, ALBERT W. BRYAN, EDWARD P. CATHCART and REGINALD FITZ, Rochester, Minn.: The rate of absorption of glucose after a standard glucose meal varies in each individual within wide limits. Since the rate of entry of glucose to the blood as a result of absorption is an important factor in determining the type of resultant blood sugar curve, as it is variable and cannot be controlled, all results from the present alimentary glucose tolerance test are open to criticism. The rate at which sugar leaves the blood after a known amount of glucose has been absorbed is a second important factor in developing the resultant blood sugar curve. It can be estimated with a fair degree of accuracy. Normally, the disappearance time of hyperglycemia after absorption has ceased is very rapid. In conditions of diminished glucose tolerance the hyperglycemia persists for varying lengths of time, the duration of hyperglycemia and the degree of intolerance being fairly parallel. A simple modification for the present ailmentary glucose tolerance test is suggested

which takes these fact into consideration, avoids as far as possible the variable factor of absorption, emphasizes the duration of hyperglycemia after absorption is checked, and makes results from one case directly comparable with those obtained in other cases.

Acid-Base Equilibrium of the Blood Following Muscular Exercise

DR. DAVID P. BARR, New York: Following short periods of vigorous muscular exercise, remarkable changes occurred in the acid base equilibrium of the blood. The carbon dioxid combining capacity was greatly diminished. The reaction of the arterial and venous blood became less alkaline. The respiration was stimulated, causing a reduction in the carbon dioxid tension of the arterial blood. In different normal individuals, the changes varied considerably in extent, but were always in the same direction. A series of experiments was done on four normal men who performed 3,500 kilogrammeters of work on a Krogh bicycle ergometer. The period of exercise was three and a half minutes. Arterial blood was taken before and three minutes after the exercise had ceased. The extent and variation of changes were: carbon dioxid combining capacity at 40 mm. minimum change, 11.6 per cent. by volume, maximum, 18.8 per cent. by volume; carbon dioxid tension of arterial blood, minimum, 1.3 mm.; maximum, 11.5 mm. p_H of arterial bood: minimum, 0.13 maximum, 0.25.

The changes were greater one minute after than they were during the exercise. With large amounts of work, the greatest reductions occurred three minutes or more after the exercise had ended. The recovery process was a gradual one and was not complete at the end of fifty minutes. The reaction of the blood returned to normal before the alkali reserve or carbon dioxid tension had reached their original levels. Three minutes after exercise, the reaction of arterial and venous blood from the arm was practically identical. The carbon dioxid capacity of venous blood, however, was from 3 to 5 per cent. by volume higher than that of arterial blood. In a study of the venous blood of one individual, it was found that he might do from 1,000 to 2,000 kilogrammeters of work without significant disturbance of blood reaction. When more exercise was attempted, however, the changes in carbon dioxid capacity and in the reaction of the blood increased rapidly with each small increase in the amount of work.

DISCUSSION

DR. E. P. JOSLIN, Boston: If I interpret these experiments aright, they explain why diabetic patients predisposed to acidosis may suddenly fall into coma after unusual exercise. A girl returns to Boston from her vacation, carrying her heavy dress suit case three blocks, and at once goes into coma. Persons with diabetes, unlike normal persons, have no reserve store of glycogen to enable them to recover quickly from the acidosis.

Effects of Lead on Red Blood Cells

DR. JOSEPH C. AUB and DOROTHEA E. SMITH, Boston: In studying the mechanisms involved in the production of the toxic anemias we have noted the following phenomena: It was first found that washed red blood cells, when exposed in vitro to minute quantities of lead, were markedly less fragile than normal cells. The technic consisted of repeatedly washing cells in Ringer's solution. Lead chlorid, dissolved in Ringer's solution with a concentration of from 0.01 to 0.05 mg. of lead per cubic centimeter (or from 1 to 5 parts per hundred thousand), was then put in contact with the red cells and allowed to remain for one hour. It was then replaced by normal Ringer's solution. The control cells were treated in the same way, but without the addition of lead. These cells were then put in a series of tubes containing dilutions of hypotonic salt. Leaded cells markedly resisted hypotonic salt dilutions, withstanding a 0.2 per cent. greater dilution than did the normal cells. There is good evidence, however, that, though less fragile, they break up more rapidly than do the normal cells. The decreased fragility is reproducible in experimental animals, and has been reported by others in man, but is less marked whenever blood serum is present. Partial explanation for this effect lies in the fact that after exposure to lead the red cells cannot absorb water normally. This is determined by studying the number and volume of red blood cells in Ringer's solution and then diluting with distilled water until the salt content is 0.6 per cent. This dilution causes normal red blood cells to swell, but leaded cells swell only slightly if at all. The other observation to be mentioned is the effect on agglutination. Ashby's method of determining the degree of agglutination was used. When a Group II or III blood was exposed to lead in concentrations of from 3 to 5 parts per hundred thousand, the agglutinating action of Group IV serum practically entirely disappeared. These observations suggest surface changes of the cells.

Cholesterol Esters in the Blood in Human and Experimental Syphilis

DRS. THOMAS ORDWAY, ARTHUR KNUDSON and HAZEL FERGUSON, Albany, N. Y.: Chemical examination of the blood in syphilis by various workers has not revealed any significant variation from normal in the amount of cholesterol present. In this study the total cholesterol and cholesterol esters were determined on the whole blood by the method of Bloor, and Bloor and Knudson, respectively. Syphilitic cases having a strongly positive Wassermann reaction were grouped into: syphilis of the heart and blood vessels, syphilis of the central nervous system, and syphilis with skin manifestations. Several cases with positive Wassermann reaction, but showing no physical signs of syphilis and control cases with negative Wassermann reaction, were also studied. The percentage of cholesterol esters in individuals with negative Wassermann reactions average 34.8 per cent., which agrees very closely with the results reported by Bloor and Knudson. The percentage of cholesterol esters in the cases of syphilis showing positive Wassermann reaction and distinct physical signs averages 21.3 per cent. The results indicate that the total cholesterol content is not affected, but the amount of cholesterol as esters is considerably decreased in various syphilitic conditions.

The cholesterol and cholesterol esters content was also studied in a series of rabbits before and after their blood had developed a four plus positive Wassermann reaction as a result of experimental inoculation with *Spirochaeta pallida*. The average percentage of cholesterol combined as esters in the blood of rabbits before inoculation is 34.3, and after developing a positive Wassermann, it dropped to an average of 22.9 per cent. These results are in close agreement with the determination on the human cases. Analysis of the data reveals that there is a marked diminution in the cholesterol esters in both human and experimental syphilis. The balance between cholesterol and its esters is significant. In no other disease so far reported has such an altered relation between bound and free cholesterol been observed. No conclusion as to the significance of these results can as yet be drawn.

Basal Metabolic Rate in Exophthalmic Goiter and Adenomas of the Thyroid Compared with the Rate in Conditions Other Than Thyroid (7,285 Cases)

DR. WALTER M. BOOTHBY, Rochester, Minn.: The basal metabolic rate was determined in 2,332 patients having exophthalmic goiter; of these, 94 per cent. had basal rates above + 20 per cent.; 5 per cent. were between + 20 per cent. and + 11 per cent., and in 1 per cent. the rates were normal. In adenoma with hyperthyroidism, the basal metabolic rate was above + 20 per cent. in 68 per cent. of 1,425 patients, and between + 20 per cent. and + 11 per cent. in 32 per cent. of the cases. In adenoma without hyperthyroidism, the basal metabolic rate was within normal limits in 100 per cent. of 1,111 patients. These figures are to be contrasted with those obtained in 2,417 patients who had diseases which did not involve the thyroid gland. In this group only 3 per cent. had basal metabolic rates above + 20 per cent.; 11 per cent. had rates between + 20 per cent. and + 11 per cent.; 7 per cent. had rates between — 11 and — 20 per cent.; 2 per cent. had rates below — 20 per cent.; while 77 per cent. of individuals had normal rates between + 10 and — 10 per cent. Of this entire group, 90 per cent. had basal metabolic rates within ± 15 per cent. of the Du Bois normal standards.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Ophthalmology, Chicago

April, 1922, **5**, No. 4

Transverse Gunshot Wound of Both Orbits Resulting in Proliferating Chorioretinitis in One Eye. H. D. Lamb, St. Louis.—p. 253.
Pyterygium Surgery. M. Goldenburg, Chicago.—p. 256.
Capsulomuscular Advancement Without Incision. S. L. Ziegler, Philadelphia.—p. 261.
Permanence of Results of Motais' Operation. H. D. Bruns, New Orleans.—p. 269.
Second Edition of Jennings' Self Recording Test for Color Blindness—Estimate of Value of Test. J. E. Jennings, St. Louis.—p. 270.
Status of Color Vision. B. Chance, Philadelphia.—p. 274.
Repair of Certain Cases of Symblepharon Associated with Traumatic Pyterygium. L. M. Francis, Buffalo.—p. 288.
New Knife Needle. J. E. Hileman, San Diego, Calif.—p. 292.
Primary Vaccinia of Cornea. N. Toomey, St. Louis.—p. 292.

American Review of Tuberculosis, Baltimore

April, 1922, **6**, No. 2

*Selective Collapse Under Partial Pneumothorax. N. Barlow and D. Kramer.—p. 75.
Intrathoracic Equilibrium in Pneumothorax. B. P. Stivelman, H. Hennell and H. Golembe, Bedford Hills, N. Y.—p. 95.
Apical Pleuritis. Statistical Study of Stereoscopic Roentgenograms of 267 Presumably Normal Students' Chests. J. G. Van Zwaluwenburg and A. D. Wickett, Ann Arbor, Mich.—p. 106.
*Effect of Sunlight and Oven Heat on Experimental Tuberculosis. J. B. Rogers, Cincinnati.—p. 119.
*Transmission of Complement Fixing Substances from Mother to Child. J. V. Cooke, St. Louis.—p. 127.
Importance of Study of Symptoms of Disease, Illustrated by Pulmonary Tuberculosis. F. M. Pottenger, Monrovia, Calif.—p. 134.
Relation of Tuberculosis Movement to Other Health Activities. D. R. Lyman, Wallingford, Conn.—p. 146.
Elements of Adequate Tuberculosis Program. A. K. Krause, Baltimore.—p. 154.

Selective Collapse Under Partial Pneumothorax.—Barlow and Kramer protest very earnestly that no operator should attempt bilateral pneumothorax unless he has at his command an efficient roentgen-ray service, unless the patient is of the proper temperament to cooperate and is willing to be a complete bed patient at least three months, and unless he himself is willing to give unremitting care and close observation to maintain the proper degree of collapse on both sides. With these conditions fulfilled, bilateral pneumothorax should not be attempted until the operator has carried a case of unilateral partial collapse through at least four or five months of treatment, maintaining a uniform degree of collapse through this period. And finally, bilateral pneumothorax should not be induced unless there is sufficient healthy lung tissue in the lower lobes to maintain sufficient respiration, and unless there is reasonable prospect of attaining arrestment with the aid which the treatment can give. Overinflation must be guarded against.

Effect of Sunlight and Oven Heat on Experimental Tuberculosis.—Ninety guinea-pigs were infected with virulent human tubercle bacilli, either by inhalation or subcutaneous inoculation. Thirty-four of these animals were exposed to natural sunlight daily, beginning with a five minute exposure and gradually increasing to several hours each day during an average period of fifty-one days. Their average duration of life was forty-seven days. Twenty-seven of the guinea-pigs were exposed to dry heat at a temperature ranging from 55 to 65 C. for five minutes; twenty of them twenty-four hours after inoculation, and seven three days after inoculation. Their average duration of life was forty-eight days. Twenty-nine of the guinea-pigs were used as control animals. Their average duration of life was forty-eight and a half days. The tuberculous involvement in these three groups of guinea-pigs was approximately the same. Sixteen white mice were inoculated intraperitoneally with 2 mg. of virulent bovine tubercle bacilli; eight of them had been heated three days before inoculation at a temperature ranging from 55 to 65 C. for five minutes. The amount of tuberculous involvement was found to be approximately the same in the heated and nonheated mice.

Transmission of Complement Fixing Substance from Mother to Child.—Four hundred twenty-seven cord bloods were tested by Cooke, seventy-four gave positive complement fixations for tuberculosis. From later examination of a number of infants in the series, it is certain that no considerable proportion of them were suffering from tuberculous infection and highly probable that none of them was infected. The source of the fixing substances found in the infant's circulation at birth, therefore, must be the mother, the transfer being effected through the placenta. The mothers of the infants could not all be examined clinically, but it is certain that all those giving positive fixation reactions did not have clinically recognizable tuberculosis. A few had known clinically active lesions. Certain others were given complete physical examination, including roentgenograms of the chest, without finding any definite evidence of tuberculous disease, although occasionally a latent clinically inactive lesion was considered probable from the examinations. In sixty cases in which the fixation test on the cord blood was negative, a later test of the mother's blood showed negative reactions in all except three. Since in these cases only a few months had elapsed since the birth of the child it seems probable that fixing substances were present in the maternal circulation during parturition, but were not transfered to the infant. Sixteen mothers of infants whose cord blood gave positive fixation tests were examined from two to five months later, and of these, twelve gave positive and four negative reactions. The degree of fixation found in the maternal bloods corresponded with that of the previous tests on the cord bloods, there being ten three-plus and two one-plus reactions. The agreement of the tests made on the blood of infants at birth and those on the mothers at a later time supports the view that the fixing substances are transferred from the blood of the mother to that of the infant. A later examination was made of fifty-eight infants who had given negative fixations at birth and all gave negative reactions after the lapse of from six weeks to six months. In seventeen infants whose fixation tests were positive at birth, only two remained positive at the end of two months, and these had both changed from strongly positive to weakly positive reactions. In the remaining fifteen cases the cord blood was three plus in nine, two plus in four, and one plus in two, and on later examination of the infants all gave negative fixations. The conclusion seems obvious that the fixing substances transferred from mother to infant during pregnancy disappear fairly rapidly. There is evidence, also, that complement-fixing antibodies in young infants are not due to tuberculous infection.

Archives of Dermatology and Syphilology, Chicago

May, 1922, **5**, No. 5

Pathologic Histology of Synovial Lesions of Skin. G. M. MacKee and G. C. Andrews, New York.—p. 561.
*Wassermann Test Performed with Chancre Fluid as an Aid to Early Diagnosis of Syphilis. J. V. Klauder and J. A. Kolmer, Philadelphia.—p. 566.
*Simple Quantitative Precipitation Reaction for Syphilis. R. L. Kahn, Lansing, Mich.—p. 570.
Scleroderma Following Nerve Injury. L. B. Kingery, Ann Arbor, Mich.—p. 579.
Lichen Planus in Husband and Wife. S. Feldman, New York.—p. 584.
*Nonspecific Protein Therapy. E. Ahlswede, Hamburg, Germany.—p. 586.
Dermatitis Caused by Oil of Citronella. C. G. Lane, Boston.—p. 589.
Hyaloma (Pseudocolloid Milium or Colloidoma Ulcerosum?) Simulating Morpheiform Epithelioma. Report of Case. R. Ruedemann, Jr., Rochester, Minn.—p. 591.
Ulcerating Granuloma (Granuloma Inguinale) in Syphilitic Patient. M. B. Parounagian and H. Goodman, New York.—p. 597.
Onychauxis and Thyroid Therapy. Report of Case. H. E. Alderson, San Francisco.—p. 602.
Tinea Versicolor of Face. D. M. Sidlick and E. F. Corson, Philadelphia.—p. 604.
Diachylon Ointment. D. W. Montgomery and G. D. Culver, San Francisco.—p. 607.
Value of Tests with Commercial Luetin. H. E. Alderson, San Francisco.—p. 610.
Cases of Herpes Zoster, Including Simultaneous Unilateral Supra-Orbital and Thoracic Eruption. E. F. Corson and F. C. Knowles, Philadelphia.—p. 619.

Wassermann Test Performed with Chancre Fluid.—Klauder and Kolmer performed the Wassermann test with the surface fluid obtained from fourteen chancres. A positive reaction was obtained in the case of twelve of fourteen patients exam-

ined. Positive reactions were obtained from chancres which were treated locally as well as from those untreated. A positive Wassermann reaction with chancre fluid is obtainable before the reaction appears in the blood. This observation apparently excludes the hematogenous origin of the complement fixing antibody and points to a local formation of these substances. Hence, there is apparently no objection to the presence of blood in the chancre fluid.

Precipitation Test for Syphilis.—The precipitation method proposed by Kahn is based on the employment of syphilitic serum with alcoholic extract antigens of dried heart muscle. The test possesses the following salient features: (1) The diluted antigen possesses considerable stability. This dispenses with the necessity of diluting fresh antigen with salt solution before using it in the tests. (2) The strongly positive serums show, in most cases, spontaneous precipitation, and the test as a whole is completed after three hours' incubation in the water-bath. (3) The end results can be read with relative ease. Only in the case of a doubtful positive reaction does one need to apply oneself, so to speak, to try to recognize a precipitate. The flocculations in the positive reactions are so heavy that even one who has had no experience in observing precipitates will not have the slightest difficulty in recognizing them. And with regard to the weakly positive reactions, a little experience will enable one to see the precipitates with ease.

Nonspecific Protein Therapy; Milk Albumin.—The intramuscular injections of a germ and toxin free solution of milk albumin Ahlswede states is indicated in all local and generalized infections, in acute and chronic staphylococcic diseases of the skin (furunculosis, pyoderma, etc.) in superficial and deep trichophytia, in buboes, gonorrheic complications, carbuncles and cases of chronic suppuration. Milk albumin injections are indicated, furthermore, in cases of acute infectious diseases and anemias. The injections are best made into the buttocks (similarly to mercuric injections. Avoid the vessels). No hard and fast rules can be laid down concerning the number of the injections and the interval between injections.

Arkansas Medical Society Journal, Little Rock

May, 1922, **18**, No. 12

Difficulties Encountered in Orthopedic Surgery. F. W. Carruthers, Little Rock.—p. 231.
Bowel Obstruction—Report of Cases. G. E. Cannon, Hope.—p. 234.
Diagnosis and Surgical Treatment of Gastric and Duodenal Ulcers. L. H. Slocumb, Fort Smith.—p. 237.

Boston Medical and Surgical Journal

May 4, 1922, **186**, No. 18

Dried Milk. T. Leary, Boston.—p. 591.
Chronic Fermentative Intestinal Indigestion. I. R. Jankelson, Boston.—p. 597.
Care of Pregnancy and Labor in Patients Previously Delivered by Cesarean Section. J. T. Williams, Boston.—p. 599.
*Sarcoma of Jaw, with Case Report. H. J. Gibby, Worcester, Mass.—p. 602.
Relation of Faulty Cultures to Diphtheria Mortality. E. S. O'Keefe, Boston.—p. 603.
Autografting of Ovary. J. H. Mezer, Boston.—p. 604.

May 11, 1922, **186**, No. 19

Legal Limitations and Authority of Massachusetts Local Boards of Health. F. G. Curtis, Boston.—p. 625.
Psychoses, Psychoneuroses and Psychopathic Conditions in Children. A. M. McIntire, Boston.—p. 630.
Calculations in Basal Metabolism Determinations. J. H. Smith and M. C. Smith, Richmond, Va.—p. 641.

Sarcoma of Jaw in Child.—Gibby reports a case of a rapidly growing mixed cell sarcoma of the right upper jaw in a child of 14 years, of seven weeks' history, following the extraction of a molar. Death resulted from toxemia and hemorrhage.

Florida Medical Association Journal, St. Augustine and Jacksonville

April, 1922, **8**, No. 10

Report on Series of Fifty Operations on Thyroid Gland. J. S. Helms, Tampa.—p. 177.
Florida's Program for Eradication or Control of Venereal Diseases. G. A. Dame.—p. 178.
Blood Stream Infections. J. V. Freeman, Jacksonville.—p. 182.
Diphtheria. B. L. Arms.—p. 186.

Journal of Bone and Joint Surgery, Boston

April, 1922, **4**, No. 2

*Spontaneous Healing Inherent in Transplanted Bone. S. L. Haas, San Francisco.—p. 209.
Sacralization of Fifth Lumbar Vertebra. C. T. Holland, Liverpool, England.—p. 215.
*New Method of Operative Treatment of Foot Deformities. O. E. Schulz, Prague, Czechoslovakia.—p. 219.
*Early Weight Bearing in Treatment of Amputations of Lower Limbs. P. D. Wilson, Boston.—p. 224.
Report of Orthopedic Examination of 1393 Freshmen at Yale University. R. J. Cook, New Haven, Conn.—p. 247.
Astragalectomy and Backward Displacement of Foot. Its Practical Results. A. Whitman, New York.—p. 266.
Lengthening of Quadriceps Tendon. G. E. Bennett, Baltimore.—p. 279.
Practical Thoughts on Bone Pegs, Bone Screws, Etc. H. C. Masland, Philadelphia.—p. 317.
Standard Plaster Bandage. W. H. Robinson, Pittsburgh.—p. 321.
*Case of Spontaneous Fracture of Transverse Process of Lumbar Vertebra, Due to Tuberculosis. B. H. Moore, Chicago.—p. 322.
Subastragaloid External Dislocation. E. Jones, Los Angeles.—p. 325.
Hypertrophic Bone Changes in Tuberculous Spondylitis. R. B. Cofield, Cincinnati.—p. 332.
Early Symptoms of Spinal Cancer. E. D. Oppenheimer, New York.—p. 342.
*Study of 208 Cases of Lower Back Pain. J. R. Kuth, Duluth, Minn.—p. 357.
Simultaneous Hydrops of Knees. H. J. Fitz-Simmons, Boston.—p. 376.
*Low Back Pain: Its Cause. J. T. O'Ferrall, New Orleans.—p. 384.
*Substituting Felt for Steel Arch Supports. W. G. Elmer, Philadelphia.—p. 395.

Spontaneous Healing Inherent in Transplanted Bone.—Haas says sufficient energy is stored in the osteoblastic cells of a live bone transplant, placed in a muscle and removed from all osseous contact, to form a union between two fragments of a fracture produced in such a transplant. Because of this very active, independent, regenerative and reparative property innate in the live bone transplant it is advisable to utilize living bone, whenever possible, for any purpose where a transplant is indicated.

Operative Treatment of Foot Deformities.—Schulz aims to produce a supination of the heel by means of a strong tendon and at the same time to secure the important adduction and inward rotation of the heel. He cuts the tendon of the musculus peronaeus longus in the sole, pulls out the dissected tendon behind the malleolus externus and conducts it inside between the gastrocnemius and the flexor of toes to the hind part of malleolus internus. Then he makes a canal between the plantar side of calcaneous and ligamentum plantare longum and carries the tendon backward under the calcaneus to the outside, where it is fixed to the periosteum of the lateral side of the calcaneus. At the same time, an inward rotation, adduction, and supination of the heel is produced. The tendon of the peroneus longus has now its route from outside to inside, returning back to the outside under the calcaneus. A contraction of the transplanted tendon will produce a strong adduction, supination, and inward rotation.

Early Weight Bearing in Treatment of Amputations.—Experience gained during the war in the treatment of patients with amputations of the lower limb has shown that it is possible to get such patients out of bed without crutches and actively bearing weight in peg legs or simple forms of artificial limbs from two to three weeks after amputation. Early weight bearing is of great advantage to the patient because (*a*) it promotes healing of the wound by improving the circulation, and in cases with terminal localized osteomyelitis favors the separation and spontaneous discharge of sequestra; (*b*) it hastens stump shrinkage and prevents muscle atrophy and the development of joint contractures; (*c*) it favorably influences the patient's morale; (*d*) it greatly shortens the period until the permanent artificial limb can be fitted and reduces the need of frequent alterations in the socket, and thereby much expense to the patient.

Spontaneous Fracture of Transverse Process of Lumbar Vertebra.—Pain in the left thigh and lumbar region was the chief symptom in Moore's case. It had come on suddenly about four months previously while the patient was doing some light work at a grinding machine. There had been no unusual strain nor could he recall any trauma. The pain at the onset was so severe that he was unable to stand or walk, but this severe pain gradually left, and was replaced by a

dull aching pain which persisted. A few weeks after the onset, the left thigh and leg became weaker than the right. The pain radiated down the inner side of the thigh to the knee. In the left lumbar muscles there was a swelling near the spinous processes, which gave deep fluctuation but was only slightly tender. The entire spine showed a slight list to the right. Forward, backward and lateral bending all caused severe pain which radiated down the thigh. Lateral bending to the right caused specially severe pain. Both hips and knees showed normal motion, passively. Active flexion of the left hip, especially against some resistance, caused severe pain both in the back and the thigh. The left thigh was 1 inch smaller than the right and the calf was ¾ inch smaller than the right. There was decidedly less strength in the muscles of the left thigh and leg. The roentgen ray showed the entire transverse process on the left side of the third lumbar vertebra separated from the vertebral body and lying about 1 cm. from it. The bodies of the vertebrae and the intervertebral disks appeared entirely normal. The swelling in the lumbar region was an abscess which was opened and drained. The transverse process was found lying free in the abscess cavity and was removed. The appearance of the pus in the abscess cavity was typically tuberculous. After the removal of the bone fragment and the evacuation of the abscess the leg pains ceased. A sinus opened in about three weeks which drained profusely. Later the patient began to lose weight and developed signs of a generalized miliary tuberculosis which was confirmed at the necropsy.

Lower Back Pain.—Pain in the lower half of the back was the chief complaint in all cases analyzed by Kuth. The most frequent site was the sacro-iliac area, 97 times. Next in frequency were: the lumbar area, 55 times; lumbosacral area, 31 times; gluteal area, 19 times; dorsolumbar area, 11 times; coccygeal area, 4 times; dorsal area, 2 times, and in the midsacral area, once. Aside from pain in lower back, 149 subjects complained of other pains radiating into the lower extremities; in 140, the pain followed down the posterior thigh and often into the outer aspect of leg and foot. These pains were always found on the same side as the back pain or on the side where the back pains were severest. Kuth suggests that in all cases of low back pain, the possibility of a progressive disease of the spine or of the spinal cord should be kept in mind. The best results from treatment were obtained in cases in which static abnormalities were corrected, in which lower back structures were protected or put at rest, and in which such structures, if shortened, were stretched. Graduated systematic exercises were an important adjunct in the treatment of many of these cases.

Cause of Low Back Pain.—Thirty-seven of the forty patients whose histories are reviewed by O'Ferrall designated the lumbosacral joint or the lumbosacral angles as the point of pain and in each instance tenderness existed at this point or points. Two designated the left hip and thigh and leg as the site of pain, which was probably referred pain due to pressure of the lumbosacral cord from swelling of the lumbosacral ligaments. One patient referred his pain to the sacrum. Examination revealed that spasm of the spinal muscles existed in some decided form, varying from slight restriction of the spinal motions to complete rigidity, including also so-called "sciatic scoliosis," in thirty cases. Inspection of the teeth showed that infective foci existed in the form of necrotic teeth, crowns and fillings (potential infectious foci) in eighteen cases. Five cases showed infected tonsils or nose; seventeen were negative for pathology and eighteen showed no record had been made of an examination of the nose and throat. The treatment given consisted mainly in clearing up infectious foci, administering mixed treatment for those having a positive Wassermann reaction or who were otherwise suspected of having syphilis, and in giving occasional doses of acetylsalicylic acid and cincophen. In many cases no other treatment was required than fixation of the spine. O'Ferrall believes that too much dependence is put on the roentgen ray as an aid to diagnosis.

Felt Arch Supports.—Elmer insists on proper shoeing and the use of felt instead of steel arch supports.

Journal of Cancer Research, Baltimore

July, 1921, **6**, No. 3

Origin of Tumors in Mice. VII. Tumor Age and Tumor Incidence. L. Loeb, St. Louis.—p. 197.
Disturbances of Blood Sugar Equilibrium in Their Relation to Neoplasia. G. L. Rohdenburg, O. F. Krehbiel and A. Bernhard, New York.—p. 223.
Pregnancy and Tumor Growth. I. Kross, New York.—p. 245.
Is Cancer Mortality Increasing? W. M. Strong.—p. 251.

Journal of Experimental Medicine, Baltimore

April, 1922, **35**, No. 4

*Hemolytic Action of a Staphylococcus Due to Fat Splitting Enzyme. M. L. Orcutt and P. E. Howe, Princeton, N. J.—p. 409.
*Experimental Rickets in Rats. IV. Effect of Varying Inorganic Constituents of Rickets Producing Diet. A. M. Pappenheimer, G. F. McCann and T. F. Zucker, New York.—p. 421.
*Id. V. Effect of Varying Organic Constituents of Rickets Producing Diet. A. M. Pappenheimer, G. F. McCann and T. F. Zucker, New York.—p. 447.
Modification of Improved Anaerobe Jar. J. H. Brown, Princeton, N. J.—p. 467.
*Experimental Studies on Etiology of Typhus Fever. IV. Immunizing and Toxic Agents Found Occasionally in Filtrates of Typhus Infected Tissues. P. K. Olitsky, New York.—p. 469.
Studies on Roentgen Ray Effects. X. Biologic Action of Small Doses of Low Frequency Roentgen Rays. W. Nakahara and J. B. Murphy, New York.—p. 475.
*Id. XI. Fate of Cancer Grafts Implanted in Subcutaneous Tissue Previously Exposed to Roentgen Rays. J. Heng Liu, E. Sturm and J. B. Murphy, New York.—p. 487.
*Studies on Lymphoid Activity. VI. Immunity to Transplanted Cancer Induced by Injection of Olive Oil. W. Nakahara, New York.—p. 493.
*Erythropoietic Action of Germanium Dioxoid. II. Source of Erythrocythemia Produced by Germanium Dioxid in Albino Rat. F. S. Hammett and J. E. Nowrey, Jr., Philadelphia.—p. 507.
Effect of Flood Diuresis on Hemoglobinuria. H. Haessler, New York.—p. 515.
*Significance of Hemosiderosis of Pernicious Anemia. P. D. McMaster, P. Rous and L. C. Larimore, New York.—p. 521.
Renal Elimination of Bilirubin. H. Haessler, P. Rous and G. O. Broun, New York.—p. 533.
*Experimental Studies of Nasopharyngeal Secretions from Influenza Patients. VII. Serologic Reactions. P. K. Olitsky and F. L. Gates, New York.—p. 553.
Mutation of Bacillus of Rabbit Septicemia. P. H. De Kruif, New York.—p. 561.
Spontaneous Decrease of Surface Tension of Serum I. P. Lecomte de Nouy, New York.—p. 575.

Staphylococcus Hemolyticus in Presence of Fat.—A staphylococcus was isolated from milk by Orcutt and Howe which is hemolytic with horse blood only in the presence of fat. Similar results were obtained with two other strains of staphylococci. The hemolysis is the result of the action of a fatty acid (or soap) on the red blood cells. The fatty acid is formed by the action of a lipase elaborated by the staphylococcus. The corpuscles of different animals show slight variations in the ease with which they are hemolyzed by the staphylococcus. Attention is called to the desirability of testing for lipases in the study of staphylococci or of hemolysis.

Deficiency in Phosphates or Calcium Causes Rickets.—The basic observation has been amply confirmed by Pappenheimer et al., that lesions of the bones identical with those previously described in rats as spontaneous rickets, may be unfailingly produced by subjecting the animals to a diet containing an adequate amount of calcium, but deficient in phosphates. Similar lesions follow a diet deficient in calcium, but containing an excess of phosphates. The endochondral lesions, however, are less pronounced. A diet deficient in both calcium and phosphate induces atypical rickets. Inorganic salts other than calcium or phosphate seem to be without influence upon the development or prevention of rachitic lesions. The minimal amount of phosphate (calculated as phosphorus) required for normal calcification in young growing rats (from 30 to 50 gm.) on the diets used in these experiments is approximately 160 mg. per hundred gm. of diet. At 135 mg. individual variations come into play; at 110 mg., or less, rickets invariably follows. An excess of calcium is not necessary to the production of the rachitic lesions. A reduction of the calcium lactate to 0.6 per cent. (111 mg. calcium per hundred gm. of diet) still results in the development of typical rickets. Adult rats react to a deficiency of phosphate in the diet by the production of calcium free osteoid in abnormal amount about the spongiosa and cortex. There is not produced any alteration of the epiphyseal cartilage, as in growing animals.

Adequate Phosphorus in Diet Essential for Prevention of Rickets.—Pappenheimer et al. state that casein phosphorus does not completely prevent the development of rickets when substituted in amount equivalent to a protective dose of basic potassium phosphate. The protection given by lecithin is equivalent to its phosphorus content. The protection given by yeast is at least proportional to its phosphorus content. An amount carrying sufficient vitamin B to promote growth, but insufficient to provide adequate phosphorus, does not prevent rickets. Vitamin A, in the form of butter or butter fat to the amount of 10 per cent. of the diet, neither prevents nor cures rickets. The substitution of 10 per cent. of egg albumin improves the nutrition, but does not prevent rickets. The addition of meat, thereby supplying an abundance of phosphorus, promotes normal growth and normal bone formation. A diet consisting solely of meat and flour is inadequate for proper growth, and leads to changes in the bones comparable with those observed on a diet low in calcium, but rich in phosphorus. A diet has been found which contains the necessary food elements for approximately normal growth, and in which the only known deficiency is phosphorus. This leads regularly to the production of rickets.

Toxic Agent in Typhus Infected Tissues.—In the filtrates of typhus infected tissues of guinea-pigs Olitsky occasionally found a substances which produces in these animals thermic reactions, lesions characteristic of experimental typhus, and, still less frequently, immunity to later injections of active virus. The general indications are that this substance is not a living organism.

Roentgen-Ray Irradiation of Tissues Affects Cancer Grafts.—An erythema dose of roentgen rays given direct to the exposed subcutaneous tissue and muscle, Lin and others assert, greatly diminishes the susceptibility of the exposed area to transplanted cancer. The same dose given over the intact skin does not affect the resisting power of the underlying subcutaneous tissue. Histologic examination showed that a few days after the exposure of the subcutaneous tissue there was a lymphoid infiltration of this tissue, which infiltration sometimes included the muscle layers as well.

Olive Oil Produces Immunity to Transplanted Cancer.—Observations were made by Nakahara to determine whether the local reaction to oil is accompanied by a general lymphoid stimulation and, if so, the effect on the resistance to cancer inoculation in mice. Commercial olive oil was injected intraperitoneally. A histologic study was then made of the general condition of the lymphoid organs, with special attention to the number of mitotic figures present as this had been shown to be a fair index of the degree of stimulation. The experiments show that it is possible to render mice resistant to transplanted cancer by this means. In the course of the development of the resistance a definite period of latency is detectable following the oil injection, and the maximum degree of resistance appears at about the tenth day. This state of resistance is preceded by a proliferation of the cells of the lymphoid germ centers and, after the cancer inoculation, is associated with a lymphoid infiltration about the grafts, as well as by a second stimulation of the lymphoid germ centers and an increase in the number of the circulating lymphocytes.

Erythropoietic Action of Germanium Dioxid.—Using as an acceptable criterion of erythropoiesis an increase in the number of erythrocytes in the circulation which is accompanied by an increase in the number of young red cells, and an increased number of nucleated erythrocytes in the bone marrow, Hammett and Nowrey consider themselves justified in concluding that germanium dioxid is a potent erythropoietic agent and the source of the erythrocythemia produced by this compound is the increased production of red cell precursors by the bone marrow stimulated to increased activity by the compound used.

Significance of Hemosiderosis of Pernicious Anemia.—The selective deposition of hemosiderin in the liver parenchyma during pernicious anemia does not constitute evidence that there is a hemolytic cause for the disease located in the portal region. The repeated introduction of small amounts of free hemoglobin into the general circulation, by the subcutaneous route, leads, as McMaster and his associates have shown, to an identical siderosis. Larger amounts of hemoglobin cause a renal pigmentation equaling or exceeding the hepatic, a fact that is in keeping with what is known of the physiology of hemoglobin excretion and of the findings in human beings after outspoken hemolysis.

Serologic Reactions of Influenzal Nasopharyngeal Secretions.—Olitsky and Gates found that cultivation of *Bacterium pneumosintes* in the collodion sac dialysate of a tissue medium produces an antigen suitable for serologic tests. Injection of dialysate cultures of *B. pneumosintes* into rabbits results in the production of antibodies demonstrable by agglutination, precipitation, complement fixation, and phagocytic reactions. Four strains of *B. pneumosintes*, three from the first epidemic infuenzal wave (1918-1919) and one from the second (1920), show identical antigenic characters. The blood serum of rabbits experimentally injected with the glycerolated active material of rabbit passages contains specific agglutinins for *B. pneumosintes*, whereas normal rabbit serum does not.

Journal of Laboratory and Clinical Medicine, St. Louis

April, 1922, **7**, No. 7

Nervous Control of Pyloric Sphincter. J. E. Thomas, St. Louis, and H. Wheelon, Seattle.—p. 375.
*Blood Pressure Studies in One Hundred and Forty Cases of Diabetes Mellitus. J. Rosenbloom, Pittsburgh.—p. 392.
*Colloidal Benzoin Reaction of Cerebrospinal Fluid. F. Warnock, Chicago.—p. 400.
Laboratory Specialist as Clinical Consultant. W. H. Bailey, Oklahoma City, Okla.—p. 410.
*Method for Producing Spinal Dog. J. E. Thomas, St. Louis.—p. 417.
Spirometer for Continuously and Automatically Measuring Expired Air and Sampling for Analysis. C. C. Guthrie, Pittsburgh.—p. 421.
*Utilization of Complement Fixation Reaction in Diagnosis of Tuberculous Meningitis. R. A. Kilduff, Pittsburgh.—p. 427.
Chair for Performing Spinal Punctures. T. B. Christian, Morris Plains, N. J.—p. 430.
Devices to Eliminate Certain Objectionable Factors in Analysis of Gastric Content. J. L. Butsch and C. M. O'Brien, Buffalo.—p. 431.

Blood Pressure in Diabetes.—The results obtained by Rosenbloom in his study show that the blood pressure in uncomplicated diabetes is normal or slightly under normal. In every case in his series in which there was a high blood pressure there could be demonstrated nephritis, arteriosclerosis or aortitis. In this series, twenty-two cases were complicated by hypertension. The presence or absence of sugar in the urine had no effect on the blood pressure. A high blood pressure in diabetes Rosenbloom thinks is due to a chronic nephritis, arteriosclerosis or a cardiac hypertrophy.

Colloidal Benzoin Reaction of Cerebrospinal Fluid.—Summing up the results of her experiments on the use of the colloidal benzoin precipitation reaction for cerebrospinal fluids Warnock found that undoubtedly syphilitic cerebrospinal fluids do not regularly precipitate in any definite zone of dilutions. The benzoin reaction adds little information in doubtful syphilitic cases. Tuberculous meningitic cerebrospinal fluids do not precipitate the colloidal benzoin in any definite range of dilutions. Many nonsyphilitic cerebrospinal fluids do precipitate the colloidal benzoin suspension, and even precipitate it in the so-called syphilitic zone. Colloidal benzoin precipitation reactions repeated on the same fluid do not give uniform results. These results are based on tests performed on eighty-seven cerebrospinal fluids, twenty-nine of which were diagnosed syphilitic, either clinically or from the laboratory standpoint. Of the twenty-nine syphilitic spinal fluids twelve precipitated in the syphilitic zone. Each of them continued beyond that range. Of the fifty-eight nonsyphilitic spinal fluids fifteen precipitated in the syphilitic zone.

Method for Producing Spinal Dog.—The method described by Thomas consists essentially of injecting a mixture of chloroform and petrolatum into a carotid artery after ligating the other carotid and both vertebrals. When properly done this produces a spinal animal without convulsions or rigidity and apparently without shock.

Value of Complement Fixation Test in Tuberculous Meningitis.—In the case reported by Kilduffe, because of the absence of any pathognomonic findings, a tuberculosis complement fixation test was made on the spinal fluid and on the blood

serum and conclusions based on the following premises: If the reaction occurred in the spinal fluid, the antigen being biologically specific, the positive reaction would indicate the presence of specific antibodies without, however, indicating their possible source. If, however, the reaction was negative in the blood serum, knowing that the interchange of antibodies between the blood and spinal fluid occurred only in slight degree, then it seemed fair to conclude that the positive reaction in the spinal fluid rose from the presence of tuberculous infection in the meninges. A positive serum reaction would as greatly diminish the significance of a positive spinal fluid reaction as a negative serum reaction enhanced it. The method was, therefore, tried with successful results in the case reported and the report is made because of the absence of any note in the available literature concerning this method of laboratory diagnosis in tuberculous meningitis.

Laryngoscope, St. Louis

April, 1922, **32**, No. 4

Disturbances of Metabolism and Its Relation to Certain Disorders of Respiratory Tract. G. Selfridge, San Francisco.—p. 243.
Endocrines and Nose and Throat. H. S. Wieder, Philadelphia.—p. 259.
Lateral Sinus Thrombosis Following Mastoiditis: Report of Cases. J. McCoy, New York.—p. 267.
Drainage of Mastoids as Means of Preventing "Scarlet Fever Ears." A. M. Dunlap, Peking, China.—p. 272.
Mastoiditis with an Unusual Number of Complications: Recovery. A. J. Huey and W. H. Slaughter, New York.—p. 275.
Indications for Opening Mastoid Cortex. F. P. Emerson, Boston.—p. 278.
Additional Experimental Studies in Bronchial Function. J. G. M. Bullowa and C. Gottlieb, New York.—p. 284.
Case of Early Hodgkin's Disease in Which Endoscopy Led to Diagnosis. L. M. Hurd, New York.—p. 290.
War Injuries of Larynx: Five Case Reports. J. C. Tucker, Beatrice, Neb., and R. M. Lukens, Philadelphia.—p. 292.
Value of Direct Inspection in Diagnosis of Chronic Maxillary Sinus Disease. F. L. Dennis and W. V. Mullin, Colorado Springs, Colo.—p. 300.
Two Cases of Infection by B. Proteus. J. D. Kernan, Jr., New York.—p. 304.

Mental Hygiene, Albany, N. Y.

April, 1922, **6**, No. 2

Place of Mental Hygiene in Public Health Movement. H. Emerson, New York.—p. 225.
Patient and His Attitude Toward His Neurosis. D. A. Thom, Boston.—p. 234.
Psychiatry, Psychology, Psychologists, Psychiatrists. W. Healy, Boston.—p. 248.
Next Step in Mental Hygiene Movement. C. P. Emerson, Indianapolis.—p. 257.
Nervousness: Its Cause and Prevention. A. F. Riggs, Stockbridge, Mass.—p. 263.
Social Significance of Dementia Praecox. E. M. Furbush.—p. 288.
Mental Health and Newspaper. N. A. Crawford.—p. 300.
Social-Service Department in State Hospital. M. L. Donohoe, Boston.—p. 306.
Psychiatric Social Work in Red Cross Chapter. M. Worch.—p. 312.
One Hundred Institutionally Trained Male Defectives in Community Under Supervision. M. A. Matthews.—p. 332.
Three Hundred Psychiatric Examinations Made at Women's Day Court, New York City. A. Scott.—p. 343.
Contribution to Mental Pathology of Races in United States. P. Bailey, New York.—p. 370.

Tennessee State Medical Association Journal, Nashville

April, 1922, **14**, No. 12

Mental Disease as Related to Age: Report of 1,200 Recent Admissions to Central State Hospital. W. S. Farmer, Nashville.—p. 1.
Radiotherapy in Malignancy. C. M. Hamilton, Nashville.—p. 4.
*New Abduction Traction Shoulder and Arm Splint and Its Uses. R. W. Billington, Nashville.—p. 7.
Cancer. W. T. Black, Memphis.—p. 10.
Question of Removal of Tonsils. S. M. Herron, Jackson.—p. 12.
Clinical Types of Goiter and Their Treatment. B. I. Harrison, Knoxville.—p. 15.

New Abduction Traction Shoulder and Arm Splint.—Billington describes a splint which is made entirely of round iron, is easily constructed and easily fitted. Beginning about the sacroiliac joint of the affected side the iron rod passes upward to the upper mesial portion of scapula, is bent at right angle with a monkey wrench, passes laterally curving slightly to fit contour of scapular and shoulder regions, thence along back of arm at desired angle of abduction and forward flexion to point of elbow; bend at right angle and pass along ulnar border of forearm and hand, there bend again to pass across palm, thence back up the radial border of forearm to elbow; thence along front of arm to front of shoulder joint, there bending slightly to pass to upper portion of sternum; thence down front of trunk to a point about two inches mesial to anterior superior spine of ilium, thence laterally at right angle curving around the pelvis to starting point; thence upward accompanying and strengthening the rod already fitted to back of trunk and arm nearly to elbow. A triangular arrangement of the two rods at upper part of back braces the arm portion and adds stability. The overlapped rods from lower back to elbow are firmly bound together by a one-inch strip of adhesive applied spirally. The portions of the frame at back of shoulder and scapula and around the pelvis are padded with felt or several turns of flannel, and this and other portions of frame are wrapped with a roller bandage. Three-inch strips of adhesive between the rods form a sling support for arm and forearm as with a Thomas splint. Two webbing straps connect the front and back portions at the top, one passing over each shoulder, carrying the weight of the frame. Another such strap around the other side of pelvis connects the front and back rods at this level and further fixes the frame to the trunk. A fourth strap connects the front and back uprights, passing under the axilla of the affected side. This one completes the fixation of frame to trunk and takes the counter-pressure against the chest wall when traction is applied to the arm. The frame should fit the body and limb snugly everywhere but not make uncomfortable pressure. The traction attachment consists of the usual adhesive strips applied to the arm and fixed beyond the elbow to a small piece of thin board attached to the iron at this point, thus holding the olecranon down to within half an inch of this rod while the amount of traction is regulated by tightening or loosening the axillary strap.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Children's Diseases, London

January-March, 1922, **19**, Nos. 217-219

Symptoms and Signs in Chronic Heart Disease. G. A. Sutherland.—p. 1.
*Cases of Incontinence of Urine. A. R. Thompson.—p. 10.
Case of Erythredema ("Pink Disease"); and Question of Acrodynia ("Epidemic Erythema"). F. P. Weber.—p. 17.
Dermatopolyneuritis (Acrodynia: Erythredema). H. Thursfield and D. H. Paterson.—p. 27.
*Acute Intestinal Obstruction Due to Inspissated Meconium. E. E. Hughes.—p. 32.

Treatment of Incontinence of Urine by Dilating Bladder.—The treatment employed successfully by Thompson in four cases consisted in passing a moderate sized catheter, with the necessary precautions, and funneling fluid in, at first under a pressure of 75 cm., and if necessary, later, under a pressure of 150 cm. The quantity injected varied with the age and size of the patient. Effort should be made to put into the bladders of children under 4 years of age 6 ounces, under 8, 8 ounces and under 16, 12 ounces, or even more. At each sitting a larger quantity is introduced. The treatment aims at dilating the bladder muscle, and training the micturition-controlling muscles to work more efficiently.

Inspissated Meconium Causes Intestinal Obstruction.—Hughes records the case of an apparently healthy male child, 3 days old, who since birth had passed no meconium and no feces. For twenty-four hours the child had vomited several times, the vomit consisting of milk and bile. The abdomen was obviously distended, presented no rigidity, and was tympanitic on percussion. The anal orifice was normal, and the rectum was of normal caliber and quite devoid of even a trace of meconium. A diagnosis of acute intestinal obstruction, due, probably, to some congenital malformation of the large intestine, was made. Operative interference was deemed inadvisable and the child died a few hours later. The postmortem examination showed a large mass of inspissated meconium of solid consistence completely blocking the lumen of the transverse colon. Immediately proximal to the obstruction was a perforated stercoral ulcer three-fourth inch in diameter, through which a quantity of liquid meconium

and feces had escaped into the peritoneal cavity, producing general peritonitis. Other masses of inspissated meconium were found in the descending and pelvic colon. There was no congenital malformation of any part of the intestinal tract.

British Journal of Surgery, Bristol

April, 1922, **9**, No. 36

Eponyms. D. Power.—p. 473.
*Pneumococcal Peritonitis. J. E. McCartney and J. Fraser.—p. 479.
Case of Epilepsy of Twenty-Two Years' Standing Due to Calcified Endothelioma or Perithelioma in Left Ventricle; Removal and Recovery. J. Lynn-Thomas.—p. 490.
*Use of Pituitrin in Inoperable Cancer. J. H. Norgate.—p. 495.
Inguinal Hernias: Their Varieties, Mode of Origin and Classification. R. H. Russell.—p. 502.
Hydronephrosis. C. A. Pannett.—p. 509.
*Multicentric Origin of Rodent Ulcer. G. L. Cheatle.—p. 529.
*Selenium in Treatment of Malignant Disease. A. S. Gillett and C. P. G. Wakeley.—p. 532.
*Bone Grafting: Bridge Grafts. C. M. Page and G. Perkins.—p. 540.
Excision of Os Calcis for Tuberculous Osteitis: Late End Results. C. P. G. Wakeley.—p. 553.
Recurrent Anterior Dislocation of Lower End of Ulna Complicated by Ununited Fracture of Styloid Process of Ulna. A. P. Mitchell.—p. 555.
Multiple Papilloma of Small Intestine Causing Recurrent Intussusception in an Adult. Z. Cope.—p. 558.
Inversion of Vermiform Appendix. A. Evans.—p. 565.
Duplication of Ureter. G. Keynes.—p. 566.
Exophthalmic Goiter: Death from Bilateral Femoral Thrombosis and Gangrene. W. G. Spencer.—p. 568.
Seven Large Sewing-Needles in Thigh. W. G. Spencer.—p. 569.
Traumatic Aneurysm of Splenic Artery—Rupture—Ligature. C. J. Marshall.—p. 570.
Sacculus of Urinary Bladder Which Ruptured During Micturition. L. Gordon.—p. 572.
Case of Repeated Abdominal Section for Intestinal Obstruction. A. H. Burgess.—p. 573.

Pneumococcal Peritonitis.—Fifty-six cases have been studied by McCartney and Fraser, twelve were in boys and none of these was of the primary variety. Of the forty-four cases which occurred in girls, eight were secondary to a pneumococcal chest infection. The remaining cases were primary, the result of infection of the peritoneal cavity from the genital tract. The primary type, according to the acuteness of the infection, may be subdivided into three different varieties—fulminating, acute and chronic. Primary pneumococcal peritonitis begins as a pelvic peritonitis, and in a typical case the clinical features afford strong evidence of the pelvic distribution. The course of the disease shows two distinct stages—introductory and septicemic. The mortality figures of the disease have been greatly diminished by the adoption of blood transfusion at the commencement of the septicemic stage of the disease.

Pituitary Extract in Cancer.—During a severe outbreak of enteric fever in 1919, finding that pituitary extract (posterior infundibular) controlled the hemorrhage cases without any bad symptoms, Norgate tried it in a case of sudden and severe hemorrhage from an extensive epithelioma of the tongue with enlarged cervical glands, injecting 1 c.c. into the tongue muscle. All bleeding stopped at once, and there was no repetition of it. Weekly injections into the tongue were given for three months, and the patient made rapid improvement, put on flesh, and the cachexia disappeared. He continued nine months in this state; then a hard mass formed in his liver, the growth in the tongue remaining the same, the glands slightly enlarged, and he died very emaciated. The first injection was given, May 12, 1919, and he died, April 27, 1920. His melancholy and suicidal tendencies improved up to about a month before his death. Similar results were obtained in thirty-six other cases. No claim is made by Norgate that pituitary extract is a cure for cancer, for it only delays the growth by cutting off its blood supply for a limited time; but as a general tonic to the system, as a great antagonist to cachexia and its attendant distress of mind and body, and as an agent in producing a remission for a time of the "last sentence" its value is great.

Multicentric Origin of Rodent Ulcer.—Attention is directed by Cheatle to the remarkable changes in the basal layers of the epidermis and hair follicles which occurred in the skin around a rodent ulcer. These changes indicate that their genesis is in the epithelial cells in the basal layer of epidermis and in the basal layer of hair follicles.

Selenium Worthless in Malignant Disease.—Gillett and Wakeley report the results of the use of selenium in more than 100 cases of malignant disease giving a résumé of fifty cases. Temporary improvement is the most that can be expected. Pain and insomnia are aggravated in most cases. The weight of the patient follows the same course as in every malignant lesion.

Bone Grafting.—The bridge graft described by Page and Perkins corresponds to the late J. B. Murphy's intramedullary graft and the operative technic is virtually the same in both cases.

British Journal of Tuberculosis, London

April, 1922, **16**, No. 2

Progress of Heliotherapy in Treatment of Tuberculosis. G. Hinsdale.—p. 57.
Team Work in Treatment of Surgical Tuberculosis. G. R. Girdlestone.—p. 66.
Science of Open-Air Treatment. L. E. Hill.—p. 72.
History of Horse Riding in Treatment of Pulmonary Tuberculosis. R. J. Cyriax.—p. 78.

British Medical Journal, London

April 15, 1922, **1**, No. 3198

Minor Displacements of Uterus as a Cause of Disability in Women. J. S. Fairbairn.—p. 587.
*Nature and Significance of Heart Symptoms. J. Mackenzie.—p. 590.
*Drainage in Abdominal Emergencies. A. Churchill—p. 591.
Splenomegaly with Progressive Ascites and Loud Venous Hum. A. J. Hall.—p. 592.
*Sachs-Georgi Test. P. Parthasarathy. M. M. Barratt and J. C. G. Ledingham.—p. 594.
Residual Vaccines in Acute Bacterial Diseases. C. E. Jenkins.—p. 596.
Parasitology and Clinical Aspects of Malaria in Antigua. W. M. McDonald.—p. 597.
*Application of Fascia Lata in Plastic Surgery. C. H. Cuff.—p. 599.
Case of Slipping Peroneal Tendons Treated by Kelly's Operation. D. H. Hume.—p. 600.
Interpretation of Symptoms in Disease of Central Nervous System. A. Feiling.—p. 600.
Hyperpyrexia During Influenza. W. G. McKenzie.—p. 601.
Slipping Rib. R. B. Mahon.—p. 602.
Thrombo-Phlebitis of Femoral Veins Following Lobar Pneumonia. T. S. Evans.—p. 602.

Nature of Heart Failure.—Heart failure, Mackenzie says, occurs when the heart muscle fails to supply the organs of the body with blood sufficient for the efficient performance of their functions. The symptoms of heart failure are, therefore, to be found in the symptoms produced by the impaired function of those organs that do not receive sufficient blood. In the first instance this will occur only when the heart is called on to exercise its full powers; the early symptoms of heart failure will only be produced during some physical effort. This limitation of the field of response to effort is revealed by sensations of distress. When symptoms of heart failure persist when the patient is at rest (dropsy, enlarged liver, orthopnea) the reserve force of the heart is exhausted and the rest force is being encroached on. The symptoms of heart failure are not to be found by examination of the heart.

Drainage in Abdominal Emergencies.—In the seventy-five cases which form the basis of Churchill's paper drainage was only carried out in the presence of free pus or thick purulent fluid. The fluid was not swabbed, the peritoneal cavity was not irrigated, not more than one tube was ever used, this in the great majority of cases being placed in Douglas's pouch. As soon as the patients had recovered from the effects of anesthesia they were put in the full Fowler's position, the upper end of the bed being raised on blocks three feet high. Among those treated are included cases of general peritonitis and of perforation of the stomach and duodenum. The advantages claimed for the method of limited drainage are: Shock is diminished as time is saved, and the abdominal parietes are not interfered with to the same extent. The after-treatment is less painful. Nothing is more nerve-shattering for a patient than the daily dressing with moving of three large tubes. The formation of a fecal fistula is less frequent, most fecal fistulas being due to ulceration of the bowel by tubes. Adhesions are not likely to form, and intestinal obstruction as an early or later complication is thus avoided.

Sachs-Georgi Test Not Reliable.—The routine Wassermann test and parallel flocculation tests were made by Parthasarathy et al. on 265 serums. Two antigens were employed throughout. Antigen D was that of Bordet and Ruelens with the addition of cholesterin as recommended by Dreyer and Ward. Antigen L was simply an alcoholic extract of guinea-pig's heart muscle, to which was added a 1 per cent. solution of cholesterin in the proportion of 9 parts of heart extract to 1 of the cholesterin solution. Ninety-one serums were Wassermann positive: positive flocculation (L) occurred in eighty-six serums and positive flocculation (D) occurred in seventy-four serums. Comparing the Wassermann and the flocculation tests by L antigen the total number of discrepancies in the series was 11, or 4.1 per cent., and in the case D 23, or 8.6 per cent. The 91 positive Wassermann tests are classified as 70 "full positive," 10 "partials," and 11 "slight partial." Thus five of eight missed positives with L antigen correspond to partial and slight positive Wassermann reactions, and half of those missed by D antigen are similarly accounted for. Only three serums yielded positive results with both L and D antigens. In all three the flocculation tests were recorded as "trace" reactions.

Use of Fascia Lata for Remedying Defects.—Fascia lata has been used by Cuff to fill in a deficiency in the oblique muscles from the rectus sheath medially to the remains of the extrenal oblique aponeurosis laterally; a deficiency of the muscles of the forearm; to take the place of a painful adherent scar about the middle of the subcutaneous border of the tibia; to wrap around a mandibular bone graft; to strengthen the pleural sac over a hernia of the right lung; to overcome a "drop-foot," the results of nerve injury consequent on a gunshot wound of the thigh. Fascia lata, 12 inches by 2 inches, was split from below upward for 7 inches, thus resembling a pair of trousers. The upper portion was sutured deeply to the periosteum of the tibia and fibula, and to the split aponeurosis. The lower bifurcated portion was pulled down by tunneling the subcutaneous tissues with forceps, and a limb drawn into each of the two lower wounds. Here with the foot in full dorsiflexion all slack was taken up, and the two strips sutured to the periosteum of the scaphoid and the fifth metatarsal, respectively, and to the plantar fascia. The man could walk well without any special boot.

Calcutta Medical Journal

March, 1922, **16,** No. 9

Treatment of Purulent Ophthalmia. S. C. Dutt.—p. 323.
Review of Angina Pectoris Based on Important Information Obtained from Analysis of Series of 13 Cases. U. P. Basu.—p. 333.
Retrospect Mineral Metabolism. A. Roy.—p. 343.

Edinburgh Medical Journal

April, 1922, **28,** No. 4

*Puberal Mammary Hypertrophy. D. M. Greig.—p. 153.
*Xanthoma Diabeticorum: Report of Case. D. M. Lyon.—p. 168.
Complement-Fixation Reaction in Tuberculosis. N. Smith.—p. 174.

Puberal Mammary Hypertrophy.—Greig reviews briefly 315 cases recorded in the literature since 1859 and pleads that puberal mammary hypertrophy with its fulminating puerperal congener be recognized as a disease sui generis, having distinctive symptoms and running a definite course, and urgently necessitating a definite surgical procedure.

Xanthoma Diabeticorum: Recovery from Diabetes.—Apart from the skin lesion Lyon's case presents several points of unusual interest. All the symptoms and the examinations of the blood and urine suggested a serious type of diabetes mellitus. The patient had a polyuria reaching 7,000 c.c., a gloycosuria of 5 per cent., and a daily waste of about 300 gm. carbohydrate, a high fasting level of the blood sugar, 0.388 per cent., and a very low carbohydrate tolerance as shown by the greatly exaggerated postprandial rise in the blood sugar. There was obvious difficulty in dealing with the fats ingested. Such a serious state of affairs in a man aged 25 would suggest a very bad prognosis, and yet he returned to almost perfect health. From this it would seem that in making a prognosis less weight should be given to the evidences of the severity of the disease and more to the amount of improvement that the patient is capable of under treatment. This improvement has been maintained for at least nine months.

Glasgow Medical Journal

April, 1922, **97,** No. 4

Tay-Sachs' Disease: Symptomatology and Pathology of Three Atypical Cases. H. W. Torrance.—p. 193.
*Industrial Dermatitis. A. D. McLachlan.—p. 212.
Structure of the Vertebrate Head. W. B. Primrose.—p. 223.
Facial Paralysis Complicating Acute Otitis Media. G. Young.—p. 231.

Industrial Dermatitis.—McLachlan discusses a dermatitis of the hands and forearms occurring in workers in cutting lubricants, all of which contain free fatty acids and copper. Aside from the lubricant other factors in the production of this dermatitis seem to be the bacterial content and contamination; nature of the material worked—bronze, copper, steel; habits of employees—personal cleanliness, discipline of shop, cleanliness of machine and personal idiosyncrasy. The comparative rarity of the condition among the large number of employed suggests that individual idiosyncrasy may be an important factor.

Indian Journal of Medical Research, Calcutta

January, 1922, **9,** No. 3

Bacteriologic and Laboratory Technic. IV. W. F. Harvey.—p. 405.
So-Called "Penis" of Bedbug (Cimex Lectularius L.) and Homologies Generally of Male and Female Genitalia of this Insect. S. R. Christophers and F. W. Cragg.—p. 445.
*Melanotic Growths. Researches of Alterations in Melanoblastic Layer of Vertebrates Explain Structure and Origin of These Growths. H. W. Acton.—p. 464.
Kala-Azar and Oriental Sore Problems. W. S. Patton.—p. 496.
Study of Kala-Azar (V). J. W. Cornwall and H. M. LaFrenais.—p. 533.
Histopathology of Nonulcerated Oriental Sore. J. W. Cornwall.—p. 545.
Indian Calliphorinae. Part II. Lucilia Argyricephala Macq. (Serenissima Fabr.), Common Indian Basaar Green Bottle, Whose Larvae Occasionally Cause Cutaneous Myiasis in Animals and Lucilia Craggii Sp. Nov., One of Common Blow Flies of Indian Hill Stations. W. S. Patton.—p. 548.
Id. III. Chrysomyia Megacephala Fabr. (Dux Esch). Common Indian Blue Bottle, Whose Larvae Occasionally Cause Cutaneous Myiasis in Animals and Chrysomyia Nigriceps Sp. Nov., Common Blue Bottle of Nilgiris. W. S. Patton.—p. 555.
Id. IV. Chrysomyia Albiceps Wied. (Rufifacies Froggatt); One of Australian Sheep Maggot Flies and Chrysomyia Villeneuvii, Sp. Nov. W. S. Patton.—p. 561.
Id. V. Lucilia Pulchra Wied. (Ruficornis Macq.), A Larviparous Calliphorine, and Lucilia Ballardii, Sp. Nov., Common South Indian Blow Fly. W. S. Patton.—p. 570.
Entomologic Notes on Field Service in Waziristan. J. A. Sinton.—p. 575.
Electrolytic Chlorogen. W. Hodgkinson and C. M. Hutchinson.—p. 586.
*Reliability of Gate and Papacostas' Formol-Gel Test for Syphilis as Compared with Wassermann Reaction. S. Ramakrishnan.—p. 620.
*Heart in Beriberi and Evidence of Differential Stethoscope. C. A. Sprawson.—p. 625.
Grappling Tail Hooks in Anopheline Larvae. M. O. Tirunarayana Iyengar.—p. 630.

Melanotic Growths.—A pigmented mole, according to Acton, is produced in one of the following ways: (1) Benign melanomas consist of an aggregation of melanoblasts under the dermis, and morphologically represent a portion of the primitive pigment sheet of amphibians, etc. (2) Benign melano-epitheliomas consist of a papillomatous mass of epidermal cells pigmented by melanoblasts, and morphologically represent a suppressed hair field, or hair area, in which the epiblastic element has largely persisted. (3) Benign melano-endotheliomas consist of an aggregation of melanoblasts, and angeioblasts, morphologically representing the mesoblastic elements of the hair papillae in which the epiblastic down growth has almost wholly or entirely atrophied. (4) Benign endothelioma consists of an aggregation of angeioblasts, and morphologically represents a suppressed mesoblastic papillae in which the vascular element alone remains. The malignant growths are derived in a similar manner: (1) Those arising from the melanoblasts only are of the nature of spindle-celled melanosarcomas; (2) while those arising from moles (benign melano-endothelioma) are necessarily of the nature of malignant melano-endotheliomas and contain both angeioblasts and melanoblasts. One or other of these cells may predominate in the primary or secondary growths. The mode of dissemination confirms this view. The melanotic sarcomas rapidly erode the blood vessels, and are spread broadcast through the internal organs, without any glandular enlargement. The endothelioma cells

spread by permeation, and less commonly by the blood vessels, and glandular infection and metastatic growths by lymphatic permeation are the rule.

Value of Formol-Gel Test for Syphilis.—The formol-gel reaction was tested by Ramakrishnan with the serum of 539 cases sent for diagnosis of syphilis against the Wassermann reaction and the two tests have been found to agree in only 66.6 per cent. of cases. With the serums which came from well marked cases of the disease the percentage of agreement was only 73.4. The test is, therefore, considered not sufficiently reliable to take the place of the Wassermann reaction.

Heart Lesions in Beriberi.—Sprawson states that about half the number of Chinese beriberi cases seen by him showed on admission distinct evidence of myocardial debility which was usually slight enough to disappear shortly after treatment by rest in bed. Both sides of the heart may be affected, the right usually somewhat more than the left. The use of the differential stethoscope was sometimes of aid in prognosis and treatment.

Journal of Laryngology and Otology, Edinburgh

April, 1922, **37**, No. 4

Structural Type of Mastoid Process Based on Skiagraphic Examination of One Thousand Craniums of Various Races of Mankind. L. Turner and W. G. Porter.—p. 161.
*Influence of Toxic Agents on Nasal Mucosa. N. Maclay.—p. 176.
Course and Relations of Arnold's Nerve (Auricular Branch of Vagus) in the Temporal Bone. A. A. Gray.—p. 182.
Early Diagnosis and Drainage of Otitic Meningitis. E. D. Davis.—p. 186.
*Case of Malignant Disease of Nasopharynx. J. Harrison.—p. 188.

Influence of Toxins on Nasal Mucosa.—Maclay expresses the conviction that some of the common intranasal phenomena cannot be regarded as the outcome of physical defects in the nose or entirely due to microbic infection in the nose or nasal accessory sinuses, and that such phenomena can only be explained by the theory that they are the local manifestations of some general state. Such conditions as spasmodic rhinorrhea and sneezing, the so-called, and, perhaps, ill-named, "vasomotor rhinitis" and the noninfective cold, seem to justify the assumption that some blood-borne element of biochemical origin may be the root cause, and, hence, is not influenced in any great degree by the removal of the obstruction or anatomic deformity or the evacuation of the local purulent focus, and that this systemic agent perpetuates the symptoms.

Endothelioma of Nasopharynx with Metastases.—Harrison cites a case of probable endothelioma or sarcoma of the nasopharynx with metastases over the clavicle, in the neck, scalp, right axilla, region of gallbladder and lower part of femur.

Journal of Tropical Medicine and Hygiene, London

April 1, 1922, **25**, No. 7

*Recent Epidemic of Tropical Septic Ulcer in Palestine: Tropical Sloughing Phagedena. A. G. Apostolides.—p. 81.

Tropical Septic Ulcer.—Any condition, physical or hygienic, which tends to reduce the tissue vitality below par and to lessen the resisting power of the organism as a whole, Apostolides states, may rightly be regarded as a predisposing cause of tropical ulcer, but all recent observers recognize—and Apostolides' own cases and experiments confirmed their opinions—that the only causative agent, the sine qua non of the tropical ulcer, is the fusiform bacillus in association with the *Spirocheta pallida* (schaudinni). There can, then, be no doubt that it is a specific disease propagated by direct contagion from man to man. That the infection takes place through the broken skin, Apostolides says, is evident. The preponderance of the ulcers in the legs among people with bare feet is the best proof of infection through the skin. Sometimes a prick or scratch with an infected instrument may introduce the infection into the skin. Certain possible instances were demonstrable that the disease is transmissible from man to man by means of some insects which attack only uncovered parts of the body and often in the night time. This insect Apostolides believes to be the mosquito, as the insect whose habits seemed adapted for such a purpose, and whose distribution conformed to the well ascertained habits of tropical ulcer. A strong support is given to this hypothesis by the fact that tropical ulcer is endemic in the same parts of the world with malaria, and attacks persons suffering from it so frequently that some writers regard tropical ulcers as a malarial manifestation.

Annales des Maladies Vénériennes, Paris

April, 1922, **17**, No. 4

*Purpura After Arsphenamin. Lespinne and Wydooghe.—p. 241.
*Arsphenamin and Its Limits. Lehnhoff-Wyld.—p. 261.
*Syphilitic Hydrarthrosis. J. Montpellier and A. Lacroix.—p. 294.
The "Syphilitics' Pater Noster," 1540. R. Barthélemy.—p. 298.

Purpura After Arsphenamin.—Two cases are described in which repeated injection of an arsenical induced hemorrhagic purpura. It appeared in one case during the second series, after suspension for three months, and the arsphenamin was then abandoned. In the second case the purpura developed after the twelfth injection, after a total of 3 gm. of the arsenical had been given. This mild arsenical treatment had been given this young man for disseminated sclerosis. The purpura assumed a hemophilic character, grave and rapidly progressive, rebellious to calcium chlorid and epinephrin. A fatal termination seemed to be impending when a single intramuscular injection of 10 c.c. of 5 per cent. Witte peptone arrested it at once and permanently. The writers warn that the slightest tendency to purpura calls for suspension of arsenical treatment and of intravenous treatment of any kind.

The Limits of the Arsenicals.—Lehnhoff-Wyld discusses the importance of the limit of concentration below which the drug has no parasiticidal action, saying that the dose can be fractioned provided the concentration is never allowed to fall below this limit during the required period. Syphilis with lesions and syphilis without lesions are two quite different problems. The anatomic cure should be accomplished before attempting sterilization. The more diffusible the drug, the more active it is and the less harmful. The therapeutic efficacy increases rapidly with larger doses, but the danger as the limit of tolerance is approached increases still more rapidly. The drug diffuses more slowly into or from fluids in repose. He adds that the rapidity of elimination of the arsenic can be estimated by examining the urine the sixth and the twenty-fourth hours after the injection. Normal elimination probably occurs by Newton's law.

Syphilitic Hydrarthrosis.—Montpellier has been unable to find on record a case like the one he reports in which both knees were the seat of syphilitic hydrarthrosis the seventy-sixth day after the contagion, the thirty-ninth day after the appearance of the chancre. The eruption did not develop till later.

Bulletin de l'Académie de Médecine, Paris

April 4, 1922, **87**, No. 14

Glanders in Man. G. Delamare and O. Noury.—p. 381.
*Infectious Origin of Disseminated Sclerosis. A. Pettit.—p. 383.
*Scarlet Fever in Adults. C. Saloz and P. Schiff.—p. 386.
Disease Versus Malformation of Hip Joint. Calot.—p. 392.
*Otitis in Infants. M. Renaud and R. Arbeltier.—p. 394.

Infectious Origin of Multiple Sclerosis.—Pettit inoculated rabbits and a monkey with cerebrospinal fluid from a patient with multiple sclerosis but free from syphilis. The animals died, and micro-organisms resembling spirochetes were found in the cerebrospinal fluid.

Scarlet Fever in Adults.—Saloz and Schiff describe an almost explosive outbreak of scarlet fever at Geneva; almost 500 cases were reported in six days. The epidemic began December 20 and stopped December 29. Fully 62 per cent. were adults; 7 per cent. between 40 and over 60. There were only 51 men to 166 women among the hospital cases. Herpes was noted in 11 per cent. and pruritus in 35 per cent. The Schultz-Charlton skin blanching or extinction test was often very useful in the differential diagnosis, and also the fixation

of complement test, especially for the retrospective diagnosis in dubious cases. Attempts to apply the Schick reaction principle to scarlet fever were not conclusive. These various tests, however, confirmed the scarlatinal nature of the infectious sore throats noted in such numbers during the epidemic and subsiding with it.

Otitis in Infants.—Renaud states that since minute and repeated investigation of the ear has been introduced in his service, the number of infants with otitis has jumped from 7.7 to 75 per cent. of the 162 infants examined. Otitis was beyond question also in 36 of 112 infants brought to the infant welfare station. The gravity of infant otitis is shown by the fact that the 29 infants free from otitis all left the hospital in good condition, excellent in 20, while only 14 survived of the 73 who had presented signs of otitis.

April 11, 1922, **87**, No. 15

*Otitis in Infants. Bar.—p. 399.
*Sterility in Persia. Mathilde Deromps.—p. 402.
Tuberculin Tests in Dairy Cows. Calmette.—p. 407.
*Malted Starch Products. Doléris and R. Lecoq.—p. 409.
*Fixation of Complement by Dust in Lung. G. Kuss.—p. 418.

Otitis in Infants.—Bar has been surprised to find evidences of otitis media in infants that had died within a few days of birth. In one child that had died during the first stage of labor, streptococci were found in the ear. The mother was infected. The infant may thus have its ears as well as its eyes infected during the birth process.

Sterility in Persia.—Deromps has been at the head of the state hospital for women and children at Teheran for the last fifteen months, and she relates that of the 3,300 women who have applied for advice, 648 came on account of their sterility. The Persian law permits a man to repudiate a wife that has not borne him a child. Of these 648 women, 362 had chronic gonococcus infection, 228 syphilis, and in only 58 were there other causes to explain the women's being sterile. In 2 of these the uterus was missing, and in the others the internal genitals were infantile or rudimentary. She ascribes this incomplete development to the effect of the early marriages. In the majority of these women menstruation did not become established until several months up to three or four years after marriage between 9 and 12. Severe lacerations were evident in some of the women.

Malted Cereals.—Doléris and Lecoq have been investigating the possibility of more effectually augmenting the digestibility of starchy foods by predigesting with malt, and the preferable technic for this. Pulverized barley malt or malt flour is the most convenient form in which malt can be used, and their research indicates that the optimal temperature is 75 C.; 30 per cent. is the optimal proportion of the malt flour, and fifteen minutes the optimal duration of the *maltage*. The porridge or other cereal is cooked first. After it is taken from the fire and waiting for two or three minutes, the malt flour is then added, about one teaspoonful for each tablespoonful of the porridge or purée. The dish is then kept warm for fifteen minutes, and is then boiled up quickly again, when it is ready to serve.

Fixation of Complement by Dust in Lungs.—Kuss experimented with guinea-pigs, having them inhale air containing magnesium dust and dust of stannic acid. The animals swallowed a large proportion of the dust in the air. The tests showed that the dust particles entered the lungs almost as abundantly and regularly as a gas is drawn into the lungs. The research reported is the more instructive as the air passages in guinea-pigs are much narrower in proportion than in large animals and in man.

Bulletin Médical, Paris

April 8, 1922, **36**, No. 15

*Pupil Sign of Pulmonary Tuberculosis. A. Martin.—p. 281.
*Goats' Milk for Infants. J. Camescasse.—p. 284.

Pupil Sign of Pulmonary Tuberculosis.—Martin instils into each eye one drop of a "0.02 per 10 atropin collyrium," and then examines the pupils day by day afterward. In the healthy, the pupils after the primary dilation gradually return to their previous diameter in four or five days. With a pulmonary process, the eye on that side shows persisting dilation of the pupil for from two to five days longer. The light reflex is also modified for from one to five days after the light reflex in the other eye has returned to normal. In forty-seven patients tested, this sign harmonized with other signs of pulmonary tuberculosis in 94 per cent. On the other hand, the atropin test gave positive findings in 13 per cent. of eight supposedly normal controls.

Goat's Milk in Infant Feeding.—Camescasse says that his extensive experience has proved that when breast milk is out of the question, goat's milk is a safer and better substitute for it than cow's milk. But he insists that the goat must be on the premises, and the milk taken raw. The ideal is to draw the milk fresh for each feeding.

April 22, 1922, **36**, No. 17

*Bismuth Treatment of Syphilis. Jeanselme and Blamoutier.—p. 317.
Deep Roentgenotherapy. P. Cottenot.—p. 318.

Bismuth Treatment of Syphilis.—The young woman developed jaundice before the roseola stage of the syphilis, during a course of bismuth treatment. In another young woman there was a pronounced Herxheimer reaction under the bismuth treatment.

Encéphale, Paris

March, 1922, **17**, No. 3

Hereditary Transmission of Mental Disease. A. Wimmer.—p. 129.
The Striate Body in Dementia Praecox. Laignel-Lavastine et al.—p. 151.
Phenobarbital in Epilepsy. Divry.—p. 169. Conc'n No. 4, p. 228.

April, 1922, **17**, No. 4

Heteresthesia in Concussion of Spinal Cord. J. Lhermitte and L. Cornil.—p. 201.
*Polygamy and Heredity. R. Mignot.—p. 212.
The "Complexes" of the Insane. E. Minkowski.—p. 219. Cont'd.
The Lipoids in Nervous and Mental Pathology. H. Biancani.—p. 234.

Heredity in the Descendants of a Polygamist.—Mignot gives a table of four generations of the family of a nineteenth century French patriarch who had 22 children by nine women. The family lived on an island in the West Indies in a restricted environment, geographically and socially, and the 151 descendants of the patriarch included 26 who were mentally abnormal; 10 of them committed suicide and 3 committed murder; there were 7 insane; 4 addicted to alcohol. The table shows that the psychopathic taint affected only males, and was transmitted only by males. The 8 daughters of the patriarch and their issue to the fourth generation were normal. The patriarch himself and his parents were normal; his father was a French colonist, his mother an African negress. The latent taint appeared in the issue from seven of his unions, all at the prime of his life. These seven women were mulattoes. Several among the 125 normal descendants were of superior mentality; 2 were mathematicians of renown and one a statesman. One of the patriarch's grandsons is now interned in Mignot's service on account of a delirium of persecution. The psychopathic taint was most prominent in the second generation and was ebbing in the third; 14 of 26 men in the second generation were abnormal and only 6 in the third, much more numerous generation. The transmission of the taint did not follow Mendel's laws regularly, but the force of the transmission is evident. The ebbing of the taint is consoling for all interested in the families of the insane, and it calls for caution in yielding to the clamor for legal sterilization of the abnormal. Several cousins intermarried, but the offspring of these consanguineous unions were all normal.

Paris Médical

April 8, 1922, **12**, No. 14

*Professional Radiodermitis. P. Degrais.—p. 293.
Radiologists' Cancer. R. Ledoux-Lebard.—p. 299.
Lipoma of Finger. Martin and Grenier.—p. 303.

Radiodermitis.—Degrais remarks that not only the skin but the tendons, bones, nerves and sexual and blood forming organs are liable to suffer from professional use of the roentgen and radium rays and emanations. Radium treatment is often effectual for roentgen-ray epithelioma as he

shows by some typical cases illustrated. In one, the epithelioma on the finger returned after two operations. It had followed a radiodermitis which had developed ten years after all radiologic work had been given up. The epithelioma retrogressed completely and durably after exposure for fifteen hours to radium. He warns that professional radiologic lesions discredit radiology in the eyes of the public. Patients consider it too dangerous, not realizing that it is only the zeal of professional workers that entails these injuries. To act quicker or with greater precision, the worker is liable to discard the protecting forceps or other instruments, and seize the applicator in his hand.

Presse Médicale, Paris

April 19, 1922, **30**, No. 31

*Continent Artificial Anus. B. Cunéo.—p. 333.
*Cocain Poisoning. F. Moutier and A. Guérin.—p. 335.

Continence of Artificial Anus.—Cunéo's illustrations show how he utilizes the principle of a skin tunnel, such as are used for cinematization of amputation stumps. The bowel is brought over this tunnel and through the skin below, and a rubber covered clamp device compresses the bowel, just above the artificial anus, between the rubber covered base, slipped through the tunnel, and the pad above. This clamp device weighs only 25 gm. and is removed at will. It is not intended to be worn continuously, and he admits it is open to improvement, but regards the principle involved as great progress.

Cocain Poisoning.—Moutier and Guérin have sought to distinguish the bulbar symptoms in the clinical picture of acute poisoning from intra-orbital injection of cocain.

Revue Franç. de Gynécologie et d'Obstét., Paris

March, 1922, **17**, No. 3

*Pituitary Treatment in Obstetrics. L. Pouliot.—p. 129.
*Radium Therapy in Gynecology. S. Tsakona and J. Kopp.—p. 145.
*Hysterectomy in Puerperal Infection. J. Courbin.—p. 150.

Pituitary Treatment in Obstetrics.—Pouliot refers here to only one field in obstetrics, the posterior varieties of vertex presentation. Expulsion is always slower than with the anterior varieties. With multiparas, labor lasts four or five hours longer and with primiparas considerably more than this. The rule that pituitary extract should not be given till the period of expulsion, waiting until the os has opened considerably, does not apply here. The criterion, he explains, is not the diameter of the os but the growing thinner and more supple of the inferior segment. Nine cases are described in detail to show how the pituitary revived almost instantaneously the deficient labor contractions in women with O. I. P. presentation. In multiparas, delivery proceeded rapidly and easily. In primiparas the results were less constant and less immediate but still they were very appreciable, shortening labor and usually rendering forceps unnecessary. He repeated the effectual dose until expulsion was complete; there was no hemorrhage. In 100 deliveries under pituitary treatment, only one infant has seemed to suffer from it (born "dazed"), and this was in 1912. He gives 1 c.c. If this proves effectual, he repeats it after the effect is quite exhausted, even in an hour. But he warns impressively against a second injection if the first has failed, and he warns further that only the obstetrician should give pituitary. He has never given more than three injections; 1 c.c. each, he says, represents a total of 60 cg. of the fresh gland.

Radium Treatment of Uterine Cancer.—Tsakona and Kopp write from Athens to describe three instructive cases in which the erythem dose of radium rays induced a clinical cure of extensive cancer of the cervix. They curet the cancer beforehand as a rule. In a fourth, an apparently identical case, the malignant disease was refractory.

Indications for Hysterectomy in Puerperal Infection.—Courbin says that if we wait until after all medical measures have failed, the emergency hysterectomy will come too late in 90 per cent. of the cases. When the uterus muscle is gravely infected, gangrenous or hyperseptic, the uterus should be removed when the facies shows toxic shock, and the uterus is soft and its secretions black and fetid, if there is any secretion at all. With beginning puerperal septic peritonitis, the indications for emergency hysterectomy are the toxic facies, the softness of the uterine muscle, and Delbet's sign, namely, the immovability of the abdomen during the respiratory movements. This is the first sign of involvement of the peritoneum.

Policlinico, Rome

April 3, 1922, **29**, No. 14

Nitritoid Crises from Defective Arsphenamin. F. De Napoli.—p. 441.
Epidemic Singultus. A. Linassi.—p. 450.
*Epidemic of Apyretic Colic. R. D'Afflitto.—p. 453.
*Ureometer. L. Condorelli.—p. 454.

Epidemic Apyretic Colic.—D'Afflitto relates that last fall violent abdominal pains and pseudo-occlusion of the bowels occurred in epidemic form. The course was progressive for six or eight days; then the pains disappeared and diarrhea followed, and the slightest error in diet brought on a relapse. There were several hundred cases in the town of 8,000 inhabitants and 190 cases in a smaller town nearby, and numerous others in the rural district around. In the later course of the epidemic the clinical picture included tenesmus and pollakiuria and the disturbances dragged along for two or three months. The families affected all used flour from a certain one of the two mills in the district and it was found that the miller had been in the habit of filling up with melted lead the crevices in the grindstones.

Simple Ureometer.—Condorelli gives an illustrated description of his two-jar hypobromite ureometer, with a table from which the urea content can be estimated from the amount of gas generated. He says the findings are accurate even with as little as 1 c.c. of blood serum.

Riforma Medica, Naples,

Feb. 20, 1922, **38**, No. 8

*Treatment of Echinococcus Cysts. Taddei.—p. 169.
*Polyvalent Vaccine Therapy in Tuberculosis. F. Durand.—p. 173.
Artificial Pneumothorax for Abscess in Lung. Siro Mazza.—p. 174.
Comparative Serodiagnostic Tests for Syphilis. A. Versari.—p. 175.
Social Prophylaxis. A. Borrino.—p. 189.

Treatment of Echinococcus Cysts.—Taddei reports a case with complete recovery after removal of a large hydatid cyst in the small pelvis, one in the spleen and one in the peritoneal space. Some were very large, but he refrained from suturing any of them to the skin, fearing difficulty in getting the fistula to heal. He tried to obliterate the cavity of each cyst by *capitonnage*, taking U sutures to approximate the interior surfaces of the cyst cavities. In another case there was secondary gas bacillus infection of the large hydatid cyst in the liver. Marsupialization exposes to secondary infection, and a cyst is often opened without regard to the necessities of gravity drainage. Eventration later is common, and an operation to correct it is hampered by the pre-existing adhesions. When suppuration is already installed, marsupialization may be indicated, but a counter opening is usually necessary to insure ample draining; in the lumbar region with a liver cyst. No drain tube, he adds, should ever be used. Partial resection of the cyst walls is usually an advantage, or partial *capitonnage*, as also Devé's method of sterilization of the cyst interior with formaldehyd. Removal of the cyst entire, without opening it, is seldom possible.

Vaccine Therapy of Pulmonary Tuberculosis.—Durand's vaccine was made from the bacteria obtained by direct puncture of the lung plus those from the sputum. The bacteria were killed by heat and were injected subcutaneously, on alternate days, to a total of from thirty to fifty injections. The benefit from this vaccine, made from the associated micro-organisms, testifies to the importance of this association in the clinical picture. As the vaccine includes the sputum micro-organisms it has a prophylactic influence, warding off further superposed infection. The improvement was so pronounced in some of the patients that they gained in weight 700 gm. and more in six days, but when tubercle bacilli alone were involved, no benefit was apparent. Leukocytosis follows the vaccine, and the fixation of complement and opsonic index confirm the trend to immunization.

March 13, 1922, **38**, No. 11

*Chronic Malaria in Children. L. Chimisso.—p. 241.
*Intermediate Metabolism with Kidney Disease. A. Zino.—p. 243.
*Treatment of Hypertrophy of the Prostate. G. Carisi.—p. 246.
Medical Surgery. B. Schiassi.—p. 252.
Nonspecific Treatment of Acute Infections. A. Ferrannini.—p. 253.

Chronic Malaria in Children.—Chimisso calls attention to the stunting of the growth of the young in a malarial region on the coast of the Adriatic, and the backward development. Puberty may be as late as after 20, and there may be a tardy growth after this age. Fully 26 per cent. of the population show defective development in both sexes. There seems to be a certain analogy between the arrested development with goiter in children, and that with malaria.

The Metabolism in Kidney Disease.—Zino notes that the gravity of the symptoms does not always parallel the degree of the uremia. Also that the nitrogen in the blood is not proportional to the retention of nitrogen evidenced by the urine; he assumes that the uremia may be due to hyperproduction in some cases, with or without disturbance in elimination by the kidneys. In glomerular nephritis, the nitrogen level in the blood always varied with the intensity of the disease process and returned to the previous figure as kidney conditions returned to normal. In uremia with tendency to convulsions, the nitrogen in the blood increased as the blood pressure rose. As the nervous symptoms subsided, the blood pressure declined and, parallel with this, the uremia. Ten cases illustrating different types are reported in detail.

Hypertrophy of the Prostate.—Carisi compares the ultimate outcome with different operative methods in Giordano's service and in other clinics. With the perineal method, about 50 per cent. were regarded as cured and the mortality was about 15 per cent. This list includes Giordano's 21 cases, Pauchet's 53, Gardini's 65, Albarran's 43, etc. With the Freyer transvesical technic, Giordano had 48 cured of 61 patients, with 9 deaths and 4 incomplete results; Hartmann 51 cured of 56; Gardini 17 of 21, and Israel 18 of 18. In Pelicelli's compilation of 630 Freyer cases, only one instance of persisting fistula was known. There was no return of the hypertrophy. In 2 of Giordano's cases, the enlarged kidney subsided to normal size and the symptoms of uremia disappeared. In 12 of 23 over 60, the sexual functions were unimpaired; in another patient they returned after having been abolished for a time; in 6 others only partial function was retained, and in 4 others impotency followed the operation.

Semana Médica, Buenos Aires

March 16, 1922, **1**, No. 11

A Duodenum Anomaly. A. Gutiérrez.—p. 409.
*Bacteriophagia. The d'Herelle Phenomenon. C. E. Pico.—p. 415.
Rupture of the Uterus. T. A. Chamorro.—p. 420.
Apparatus for Artificial Pneumothorax. F. Gorriti.—p. 424.
*Syphilis of the Bladder. P. Ghiso and J. J. Puente.—p. 426.
*Bacterial Autolysis: Bacteriophagia. A. Bachmann and L. I. Aquino.—p. 432.
*Granulomatosis. A. E. Bianchi.—p. 432.
Inheritance of Syphilis. J Palacio.—p. 442.

Bacteriophagia.—Articles on the Twort-d'Herelle phenomenon are appearing now in every country. Pico asserts that the phenomenon of bacteriophagia has a more general significance than has been realized hitherto. It seems to be a form of autocatalysis, a disintegration of the bacterial proteins under the action of ferments originating in the bacteria themselves or in the bowel content or blood.

Syphilis of the Bladder.—Ghiso and Puente remark that the bladder mucosa probably shares in the manifestations of syphilis during the secondary stage, but no one thinks of cystoscopy at this stage. Eleven such cases, however, are on record, and in one of them the bladder findings first gave the clue to the general syphilis. After eleven days of specific treatment the bladder was practically normal. Ulcerating gumma of the third stage is more common. Hematuria without pain was the first symptom to attract attention in 60 per cent. of Thompson's 51 cases. The hemorrhage is not influenced by position or repose, and it may keep up for days or weeks and finally subside completely. In 5 cases clots plugged the outlet, and in 2 of Nin Posada's cases the hematuria had been preceded by malaise and chill, and slight persisting fever followed. Pollakiuria is common; pain is rare, but may be violent while it lasts. One patient complained of agonizing pain in the hypogastrium for two years. The pain gradually became continuous night and day, with exacerbation when the bladder filled. The pain spread to the perineum and sometimes to muscles and glands.

In many instances the bladder lesion was the only active manifestation of the syphilis, and in cases without a clear history, the syphilitic origin sometimes escaped recognition. The cystoscopic findings are not characteristic; tuberculosis is excluded only by negative search for tubercle bacilli and inoculation of animals. Even specific treatment may be misleading as neoplasms in a syphilitic soil usually improve under specific treatment, but this is only temporary. The Wassermann reaction was positive in 16 of the 17 cases known, but it was negative in a case personally observed. The woman of 57 had aborted six times, and had had nine normal deliveries. The bladder symptoms began in December, 1921, repeated desires, especially at night, and then pain, exaggerated at micturition. After a week of this, blood appeared in the urine and the pain subsided. The hematuria continued, at intervals of a day or two, for a month with malaise, syncopes and nausea, and the cystoscope showed ulceration but the Wassermann test was negative. Under arsenical treatment the symptoms gradually subsided, and the bladder mucosa had returned nearly to normal by the sixteenth day.

Bacteriophagia.—Bachmann and Aquino report research on d'Herelle's bacteriophagia. Modifying the dysentery bacilli with cobra venom or pancreatin intensified the transmissible autolysis.

Granulomatosis.—Bianchi reports the first case to be published in Argentina of granulomatous ulcerations in the stomach. He diagnosed the lymphogranulomatosis from the blood and clinical findings, confirmed by necropsy, in the man of 45. For the last fifteen years he had been having occasional hemorrhage from the bowel for three or four days at a time.

Gaceta Médica de Caracas

Dec. 15, 1921, **28**, No. 23

Malaria in State of Zamora. R. Medina Jiménez.—p. 351.
*Spirochetal Bronchitis. P. González Rincones.—p. 365.

Spirochetal Bronchitis.—González Rincones reports a case of Castellani's bronchial spirochetosis which simulated pulmonary tuberculosis. The disease had invaded the lung and had persisted for seven months before the spirochetosis was recognized. Then it yielded to a four months' vigorous course of mixed treatment, iodin, antimony and arsenic. In another case the girl of 14 presented the spirochetal bronchitis in an acute form, and under 50 cg. of antimony and potassium tartrate in the course of a month the cure was soon complete. The symptoms had deceptively simulated acute pulmonary tuberculosis. The drug was injected daily by the vein in doses increasing from 0.02 to 0.05 gm., with intervals of repose, to the total of 50 cg. There was never any sign of intolerance.

Repertorio de Medicina y Cirugía, Bogotá

December, 1921, **13**, No. 3

Prophylaxis and Serotherapy of Yellow Fever. H. Noguchi.—p. 118.
*Climatic Fevers. P. J. Amaya.—p. 135.
Hygiene in Colombia. L. E. Aconcha S.—p. 141.
Treatment of Fracture of Neck of Femur. A. Esguerra.—p. 154.

Climatic Fevers.—Amaya explains the necessity for the emunctories being in perfect order when making a sudden change to a tropical climate. When the emunctories are working well, the excess of heat is cast off by the skin, lungs, etc. If this cannot occur, the heat accumulates, and there may be an acclimatation fever or tropical dengue or relapsing fever or fever from the invasion of malaria, or there may be actual climatic shock. The combination of the heat, change of diet, and insect bites in persons over 40, with some organic lesion of heart, kidneys or lungs, the skin functions sluggish, is liable to induce actual climatic shock, especially if the skin has been accustomed to a cool climate

without much chance for functioning of the sweat glands. With headache, pains in muscles and back, and fever running up suddenly to 41 or 42 C. in a few hours or the second or third day, a comatose condition may prove fatal in four or five hours. The clinical picture is that of heat stroke, but the patient is in bed, and there has been no exposure to the sun. A change to a cooler climate is followed by rapid improvement. He advises making the change from a cool to a tropical climate only gradually.

Revista de la Asoc. Méd. Argentina, Buenos Aires

December, 1921, **34**, No. 206

Pay Patients in the Public Hospitals. J. S. Passeron.—p. 1289.
Prophylaxis of Venereal Disease. M. V. Carbonell.—p. 1317.
*Encysted Pleurisy. M. R. Castex and A. A. Raimondi.—p. 1353.
*Interlobular Pleurisy. G. Aráoz Alfaro.—p. 1389.
*Ulcerative Colitis. T. Martini and C. Bonorino Udaondo.—p. 1409.
*Interlobar Pleurisy in Children. J. P. Garrahan.—p. 1452.
Microbiology of Spirochaeta Pallida. P. I. Elizalde.—p. 1455.
*The Spermatozoa of Syphilitics. V. Widacowich.—p. 1564.
The Basis and Value of the Wassermann Test. E. Lorentz.—p. 1579.
Precipitation Reactions in Syphilis. A. Sordelli and C. E. Pico.—p. 1651.
*Tumors of the Pancreas. R. A. Rivarola.—p. 1669.
Inherited Syphilis of the Long Bones. L. A. Tamini.—p. 1702.
Present Status of Treatment of Puerperal Infection. E. A. Boero.—p. 1713.
Roentgen-Ray Treatment of Uterine Fibromas. E. Lanari.—p. 1727.
*Mishaps with Gastro-Enterostomy. P. Escudero.—p. 1736.
Access to and Mobilization of Pancreas and Spleen. A. Gutiérrez.—p. 1743.

Encapsulated Pleural Effusions.—Castex and Raimondi recall that encysted pleuritis is always secondary, as the adhesions entailing the cyst formation are relics of some previous inflammatory process. Treatment has to be both general and local, but an active tuberculous focus forbids the measures for revulsion otherwise advisable, as they might entail hemoptysis. They review the different clinical pictures as different parts of the pleura are affected. In the apex region, the process may be mistaken for apical tuberculosis.

Interlobular Pleurisy.—Aráoz Alfaro remarks that the roentgen rays have revealed that encapsulated pleurisy is much more common than previously believed possible. The encapsulated interlobular cases are the rarest, and the hardest to detect, especially when there is some lesion in the lung near by. Many a case of supposed chronic disease of the lung is merely an old interlobular pleuritis Serous pleuritis, of tuberculous nature, may have a characteristically localized pain, forking to correspond to the fissures, and the dyspnea is more intense than with pleurisy of the main cavity. A band of shadow, generally slanting across one side of the chest, but sometimes round or oval, is instructive, especially when one edge is slightly concave and the lower edge is more sharply defined than the upper. The displacement of the shadow with the roentgen tube at different angles is also instructive, and exploratory puncture is often decisive. With right interlobular pleurisy the fourth or fifth interspace, in the anterior axillary line, close to where the fissure forks, is the best point for puncture. When secondary to pneumonia or bronchitis, the small serous effusion is fleeting, but occasionally there is considerable effusion and it rapidly becomes purulent. When of tuberculous origin, the serous effusion never becomes purulent. Syphilitic pleurisy is retrospectively diagnosed by the negative findings and the rapid success of specific treatment. It must not be forgotten, however, that tuberculous pleurisy is essentially mild and heals spontaneously in a few weeks. Tuberculous pleurisy often occurs in the syphilitic. Serous interlobular pleurisy generally subsides without any special treatment, but it has been his impression that the salicylates hastened the cure. Subcutaneous injection of fluid from the effusion did not seem to display much effect. He knows of only two instances of a hemorrhagic interlobular pleurisy. When the effusion has become purulent, and the pneumococcus is the only bacterium found, puncture, repeated two or three times, may lead to a complete cure. If the effusion returns after the second or third puncture, operative measures should be considered. With purulent tuberculous pleurisy, thoracotomy always does harm, setting up secondary infection. Nothing should be attempted beyond evacuating punctures, local modifying injections and artificial pneumothorax. The prognosis is grave principally on account of the gravity of the primary lung process. In the discussion that followed, Bullrich described a case in which the encapsulated pleuritic fluid contained large quantities of cholesterin. These cholesterin cases are the ones that keep up interminably, the effusion recurring constantly, sometimes for years, but the general health keeps good. His experience with autoserotherapy has been favorable.

Ulcerative Colitis.—The writers present a study of the history, the clinical course and the outcome of ulcerative colitis. Vaccine therapy seems to be promising, they remark, and it should be given a trial in all chronic rebellious cases in which some specific micro-organism can be isolated, the typhoid or proteus bacillus, streptococcus, etc. Even if operative measures are applied, the vaccine is always a fundamental indication, unless there is cancer, tuberculosis or syphilis, or lesions in liver, heart or kidneys. They also warn against vaccine therapy during an acute exacerbation; it is liable then to aggravate the condition alarmingly. Ulcerative colitis is a form of infectious colitis for which any one or more of a number of factors may be responsible.

Interlobular Pleurisy in Children.—The prolonged course of the interlobular pleurisy in a girl of 8 and an infant of 18 months suggested its tuberculous nature, and the tuberculin test was strongly positive. Under general tonic and symptomatic treatment, clinical recovery ensued. No puncture was made.

Microbiology of the Spirochete of Syphilis.—Elizalde's long monograph is accompanied by nearly twenty pages of bibliography.

The Spermatozoa of Syphilitics.—The statements of Widacowich in regard to the unusual proportion of deformed spermatozoa in the sperma of syphilitics have already been mentioned in these columns. He found from one to four heads and from one to four tails in a surprisingly large percentage of specimens of syphilitic semen. "If syphilis can modify thus the reproductive elements in a visible way, it is logical to assume that along with these appreciable anomalies there may be invisible molecular changes." This would explain the small number that are normal of the children of syphilitic parents. The spirochete may or may not be present in the offspring. When it is not present, it is a waste of efforts to give the children specific treatment merely because they present certain bone, teeth or other anomalies showing the influence on the growth of the parental syphilis. Specific treatment is useless and does only harm in such cases.

Tumors of the Pancreas.—In the first of Rivarola's two cases the man of 45 presented symptoms suggesting cancer of the head of the pancreas, with gallstone obstruction. The gallbladder was united to the stomach, after removing a few cholesterin concretions, and complete recovery followed, permanent for ten years to date. The course was similar in a second case. They teach that a simple inflammatory tumor in the pancreas is liable to impose the diagnosis of cancer, and nothing but the subsidence of the tumor after an ample outlet for the bile has been provided, disproves the assumption of malignant disease. The inflammatory tumor usually leaves sclerosis in its wake. He has had 3 operative cases of a cystic tumor in the pancreas in children, and cites 12 other cases in Argentina, but all were in adults. The list includes only 3 men. During the development of the cyst the symptoms may suggest pancreatitis, actual pancreas colic, and there may be jaundice, intense headache, salivation, glycosuria and lipuria. This phase does not last long, and the patient may then recover apparently complete health for months, until the discovery of a tumor or the reappearance of some of the symptoms calls for medical aid. Two other cases are described, one a pseudocyst in a man of 34, the other a traumatic cystadenoma in a boy of 9. Six liters of a clear fluid were evacuated from the cyst in the man and 500 c.c. from the child. In both cases the cyst was sutured to the skin. With a persisting fistula of the kind it may be necessary to give a special diet consisting of fat and protein, avoiding carbohydrates, and giving sodium bicarbonate. Two

cases of hydatid cyst of the pancreas are also reported; the diagnosis had been made before the operation in one of them. In the discussion that followed, Arce reported 2 cases of hydatid cyst of the pancreas with persisting fistula and death from recurring hemorrhages in the wound. Passeron related that in one case of cystadenoma of the pancreas, the tumor was so movable it could be pushed from side to side and was safely enucleated; the gallbladder was removed at the same time. Escudero has found the duodenal tube very useful in aiding in differentiation of pancreas disease.

Mishaps with Gastro-Enterostomy. — Escudero reports some cases in which no benefit followed the gastro-enterostomy. In one the anticipated ulcer did not exist; in some others, syphilitic disease of the stomach, nervous dyspepsia or aerophagia persisted unmodified by the gastro-enterostomy or developed after it. In others, the patients failed to realize the necessity for care in the diet afterward. In another group the gastro-enterostomy itself was defective. In conclusion he urges resection rather than gastro-enterostomy when conditions permit, wedge resection or gastrectomy.

Revista Española de Medicina y Cirugía, Barcelona

February, 1922, **5**, No. 44

*Technic for Total Laryngectomy. R. Botey.—p. 61.
Therapeutic Dietetics. A. Arteaga Pereira.—p. 71. Cont'd.
*Industrial Accidents. S. García-Tornel.—p. 78.

Technic for Total Laryngectomy.—Botey gives an illustrated description of his technic for total laryngectomy by Gluck's method. The scarcity of lymphatic glands in this region and the protection afforded by the larynx walls render the prognosis of a cancer strictly within the larynx exceptionally favorable, if the larynx can be removed, even when the growth is of several months' standing. Recurrence is less liable in the vigorous elderly than in the young, and a preliminary tracheotomy is not necessary, but the teeth and bowels must be in order, and the heart action kept under constant supervision. His technic differs in several points from Gluck's. In about 25 per cent. the voice is excellent, but in the others there is no pharyngeal voice. Most of them discard sooner or later the phonetic devices provided. It is a mystery why some can speak intelligibly and others not, in conditions apparently identical.

Industrial Accidents.—This is a detailed report of the recent Spanish congress on industrial accidents, the first of its kind. The address of the president, Dr. Oller, was entitled "Medical Reforms necessary to introduce in the bill now pending on industrial accidents." A resolution was adopted to the effect that when an operation is necessary and harmless, the injured workman should be given the choice of submitting to the operation or relinquishing his claim for indemnity. Another resolution referred to a conflict of opinion between medical experts in cases involving workmen's compensation. In this case the workman should be examined by the local professor of surgery, a hospital surgeon and a surgeon member of the Academy of Medicine or, if not available, a corresponding trio appointed by the local medical society. One resolution stated that hernia and lumbago should not be considered as permanent disabilities.

Siglo Médico, Madrid

March 11, 1922, **69**, No. 3561

*Protracted Epidemic Encephalitis. E. Fernández Sanz.—p. 253.
*Congenital Luxation of Shoulder. J. Decref.—p. 256.
Keloid Cicatrices. Sicilia.—p. 259.
*The Kidney and Glycosurias. J. Caballero y Fernández.—p. 260. Conc'n.

Protracted Epidemic Encephalitis.—Fernández Sanz states that polymorphous encephalitis would be a better term, as the multiplicity and variety of the symptoms induced is its main characteristic. He quotes Hassin to the effect that all the different types of symptoms may be presented by the one patient in time. Fernández Sanz describes a case in a robust farmer of 31 apparently free from pathologic antecedents of any kind. Since March, 1920, he has had epidemic encephalitis, presenting a kaleidoscopic clinical picture of the eight forms of the disease, and this is still kept up. The tendency to lethargy has been more constant than the other symptoms. It was pronounced after the opening phase of violent delirium and agitation. Then came a phase of paresis, a phase of pains, and the existing parkinsonian phase.

Congenital Dislocation of the Shoulder.—Decref protests against the prevailing assumption that the inability to use the arm is the result of paralysis from injury of the brachial plexus during extraction of the child. This may explain some cases, but in the majority the trouble is actual dislocation of the shoulder, the humerus pulled out of place by the stretching of the capsule and ligaments. Treatment should be immobilization on a light splint to hold the arm in abduction and outward rotation. Even if there is paralysis from injury of the plexus, this can only gain from the procedure, while it is the only cure for dislocation. The mother soon learns to apply this ruler splint every day, after gentle manipulation of the shoulder, elbow and hand. When plexus paralysis is assumed, treatment is apt to be delayed and the crippling becomes more pronounced and harder to correct.

Kidney and Glycosurias.—This is the conclusion of Caballero's long study of this subject, presented as his graduation thesis. The special points he seeks to emphasize are the presence of sugar in normal urine, the large proportion of sugar in the renal artery, the small portion in the renal vein, the share of the kidney in experimental phlorhizin glycosuria, and the lesions in the kidney consecutive to glycosuria. The glucose reaching the kidney is partly destroyed, partly transformed into other bodies, and a small proportion is eliminated. Glycosuria occurs when an excessive amount is received or the kidney functioning is insufficient. This is liable to happen under various conditions and must not be confounded with diabetes.

Deutsche medizinische Wochenschrift, Berlin

March 10, 1922, **48**, No. 10

Parenteral Nonspecific Proteotherapy. R. Stintzing—p. 311.
Material Basis for Functional Superiority of the Left Cerebral Hemisphere. Förtig.—p. 312.
Detoxicating Effect of a Secretin Solution, Derived from Spinach, on Strophanthin. K. Miyadera.—p. 313.
Distribution of Leukocytes in the Blood Stream. Stahl.—p. 314.
Vein-to-Vein Transfusion in Surgical Cases. Hempel.—p. 316.
Etiology of Köhler's Disease. W. Baensch.—p. 318.
Poisoning from Barium Preparations in Roentgen Examinations. P. Krause.—p. 319.
Eunuchoidism in Rabbits with Spermatozoa in the Vas Deferens and Underdeveloped Interstitial Cells. Lipschütz, Bormann and Wagner.—p. 320.
Personal Prophylaxis to Prevent Infection from and of Prostitutes. R. Habermann.—p. 322.
A Quick, Clean and Reliable Method of Testing the Stool for Occult Blood. R. Weiss.—p. 323.
Euresol to Ward Off Mosquitoes. Klein.—p. 324.
Pathologic Relations of Female Genitalia and Adjacent Organs. Liepmann.—p. 324.

April 14, 1922, **48**, No. 15

*Diabetes and Balneology. O. Minkowski.—p. 475.
Radiothorium and Its Therapeutic Application. P. Lazarus.—p. 477. Conc'n.
*Cancer Therapy. J. Wetterer.—p. 480.
Lymphogranulomatosis. H. von Hecker and W. Fischer.—p. 482.
A Benign Pancreatic Tumor. E. Heymann.—p. 484.
Treatment of Tuberculosis with Colloidal Gold. G. Schellenberg. —p. 487.
Two Cases of Zinc Poisoning. R. Engelsmann.—p. 488.
Swine Erysipelas Contracted from Cadaver. Esau.—p. 489.
Intracranial Traumatic Hemorrhages. G. Ledderhose.—p. 489.
Course in Venerologic Technic: Syphilis. M. Joseph.—p. 491.

Mechanism of Diabetes.—Minkowski, in considering the disturbance of metabolism in diabetes, takes up the much discussed problem as to whether such disturbance is due to an overloading of the organism with sugar as the result of increased production or from defective utilization of sugar. While an exponent of the theory of a disturbance in the utilization of sugar, he has never contended that there may not be also an increased production of sugar in diabetes. He emphasizes, that an increased production of sugar cannot of itself explain the processes that take place in diabetes—that the assumption of a disturbance in sugar utilization is imperative; furthermore, that this disturbance must be traced back to the impairment of some essential pancreatic function. This disturbance of pancreatic function is, he believes, inherent in all cases of true diabetes mellitus. He rejects the idea that this disturbed pancreatic functioning results solely in an unrestrained production of sugar, brought about, it is said, by the breakdown of the inhibiting influence of the pancreas on the action of epinephrin in the liver. He still holds

that the pancreatic disturbance consists in the interruption of some positive duty that the pancreas is supposed to perform in the utilization of sugar.

Cancer Therapy.—Wetterer has for many years supported the theory that the blood of persons who have been cured of cancer, either through operation or by irradiation, contains carcinoma-destroying substances, and that such substances, if introduced into the blood stream of carcinoma patients, would have therapeutic value in combating the cancer. He also assumed that, since cancer is, as a rule, an affection of persons past middle life, the blood of younger persons must contain especially large quantities of the substances that inhibit the growth of carcinoma. Therefore, he reached the conclusion that by injecting the blood serum of youthful persons into the veins of carcinoma patients a therapeutic effect could be secured. Strictly homogenous serum is less likely to cause untoward by-effects than heterogenous serum. Therefore, he employed in his experiments the serum of children or grandchildren. He reports good therapeutic results in two cases. One case was that of a woman, aged 68, with a large, deep-seated skin cancer in the right temporal region, the bone having already become involved. Roentgen irradiation had proved unavailing and was abandoned for fear further irradiation might cause necrosis of the bone. Accordingly, an intravenous injection of serum derived from the 14 year old granddaughter of the patient was administered. In addition, stimulative irradiation of the spleen, the thymus and the underlying bones was applied. The third day following the injection of serum the erythrocyte count rose by 750,000 to around 4,000,000; likewise, the hemoglobin content improved. A week later, a second injection was given, the irradiation being omitted, whereupon the erythrocyte count became normal. After two further injections, the patient gained in weight and her general health was better. The carcinoma retrogressed; the previously profusely discharging tumor dried up, and a large portion healed over, leaving a good scar. The second case was that of a man, 66 years old, with an inoperable carcinoma of the stomach. His general condition was very bad. He was given an intravenous injection of blood serum derived from his daughter, aged 21, plus stimulative irradiation of the spleen, thymus and bones, and deep roentgen irradiation of the tumor. Following the injection, a marked increase of erythrocytes was noted. At the end of a week, the erythrocyte count became normal. After the second injection, the tumor became much smaller and the general health had improved. An increase in weight of more than 5 pounds was noted. Shortly after the fourth injection, the tumor was no longer palpable. At the last examination of the patient, his general condition was good and the gain in weight amounted to 11 pounds. It remains to be seen, Wetterer says, whether such results will be constant and whether other physicians will, after investigation, confirm them. Wetterer states that his method is being tried out in several large hospitals.

Klinische Wochenschrift, Berlin

Jan. 28, 1922, **1**, No. 5

Psychology in Relation to Psychiatry. O. Bumke.—p. 201.
The Body's Natural Means of Defense Against Syphilitic Infection; How Affected by Mercury. S. Bergel.—p. 204.
Arsphenamin Death with Cerebral Symptoms. Henneberg.—p. 207.
Therapeutic Value of Bulbus Scillae. J. Markwalder.—p. 212.
Serotherapy and Chemotherapy of Otogenous and Rhinogenous Meningitis. O. Fleischmann.—p. 217.
*Test Glycosuria as Early Sign of Pregnancy. R. Roubitschek.—p. 220.
Treatment of Abortion. G. Siefart.—p. 221.
Saprophytism and Parasitism in Bacteria. K. Kojima.—p. 221.
Pathogenesis of Infantile Tetany. Freudenberg and György.—p. 222.
Anaphylaxis in Isolated Organs of Frogs. M. Kochmann and P. Schmidt.—p. 222.
Treatment of Early Syphilis. G. A. Rost.—p. 223. Conc'n.
Prophylaxis of Diphtheria. K. Kassowitz and B. Schick.—p. 225.
Selection of Tuberculous Patients for Institutional Treatment. H. Ulrici.—p. 227.

Test Glycosuria in Pregnancy.—Roubitschek has the woman drink, fasting, 200 c.c. of tea with 10 gm. of glucose. Then in twenty minutes a subcutaneous injection of 0.5 c.c. of a 1:1000 solution of epinephrin is given. Sugar appeared in the urine thereafter in twenty pregnant women, some only six or five weeks since the last menstruation. The blood sugar content averaged 0.15 per cent. when the glycosuria appeared. He styles this a simple and rapid test for early pregnancy.

Medizinische Klinik, Berlin

March 12, 1922, **18**, No. 11

Psychanalysis and Medicine. A. Mäder.—p. 329.
*The Hemoclastic Crisis a Sign of Vagotonia. F. Glaser.—p. 331.
*Pathologic Relations Between Stomach and Heart. L. Roemheld.—p. 334.
Transverse Tracheotomy. A. Bingel.—p. 337.
Hydrotherapy in the Home. P. Groag.—p. 338.
Loss of Weight at Close of Pregnancy. L. Nebel.—p. 339.
Case of Febrile Syphilitic Meningitis. Bock.—p. 340.
Angiosclerotic Intestinal Dyspragia. P. Heilmann.—p. 342.
Treatment of Abortion in the Home. Pentz.—p. 343.
Some Practical Obstetric Questions. E. Runge.—p. 346. Conc'n.

The Hemoclastic Crisis a Sign of Vagotonia.—Glaser states that the vagus system predominates in the young and the sympathetic in the elderly. A child with pronounced sympatheticotonia is as rare as an elderly person with vagotonia. The latter is physiologic in children, and the drop in the number of leukocytes after ingestion of a glass of milk —the hemoclastic crisis—is a manifestation of the vagotonia, as also in persons with liver disease. With this there is retention of bile acids, and the bile acids irritate the vagus and induce vagus reflexes. The alimentary leukopenia in children and in adult vagotonia subjects can be transformed into alimentary leukocytosis by epinephrin and atropin—convincing proof of the juvenile physiologic vagotonia. It possibly has some connection with the hypothetic internal secretion of the thymus in children and of the genital glands in adults. Vagotonia induced by pilocarpin responds with leukopenia to the ingestion of the glass of milk, the same as natural vagotonia. Among certain practical points brought out is that vagotonic exophthalmic goiter subjects are exceptionally predisposed to anesthesia fatalities. Hence it is important to test them for the abdominal vagus reflex before attempting to operate on them.

Pathologic Relations Between Stomach and Heart.—Roemheld discusses here one special field of gastrocardiac disturbances, the heart disturbances with dyspepsia of the subacid and anacid type. Romberg recently stated that in 463 private patients consulting him for heart disturbances, forty-four were of this gastrocardiac type. Treatment of the heart disturbances does little good. Not until the dyspepsia is properly treated is benefit apparent. When the heart disease is the primary disturbance, the stasis gastritis may be the first sign of trouble, and the stomach may return to normal when the heart gets the needed aid in treatment. The stomach and the heart are separated only by the thin diaphragm so they may suffer in unison, particularly as they are both innervated by the same nerve. The anacid stomach is a restless neighbor; even when empty the hypermobility may keep up. The excessive motor functioning and the weakness from the overhasty emptying of the stomach may induce discomfort which is usually ascribed to the heart region rather than the stomach. The heart suffers particularly when the stomach is distended with air.

Münchener medizinische Wochenschrift, Munich

March 3, 1922, **69**, No. 9

Postoperative Peritoneal Adhesions. H. Martius.—p. 299.
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Iodin in Prophylaxis of Influenza. E. Stettner.—p. 306.
The Skin in Relation to Tuberculosis Immunity. W. Böhme.—p. 306.
Treatment of Abortion. M. Samuel.—p. 308.
Intracardiac Injections of Epinephrin in Heart Failure in Infants During Anesthesia. C. Bliedung.—p. 309.
Intravenous Injection of Camphor in Infants. R. Schelcher.—p. 310.
Specific Therapy and Prophylaxis of Yellow Fever. Olpp.—p. 311.
Physician's Observation of War Neurosis in Self. Ambold.—p. 311.
Nocturnal Cramps in Calf of Leg. K. Ochsenius.—p. 312.
Treatment and Prognosis of Acute Otitis Media. Scheibe.—p. 315.

March 10, 1922, **69**, No. 10

Function of the Cortex of Suprarenals. R. Stephan.—p. 339.
Testing of Liver Functioning. Lepehne.—p. 342.
Functioning of the Pancreas in Dysentery. Von Friedrich.—p. 344.
Securing of Contents of Small Intestine. Ganter.—p. 347.
Roentgen Irradiation for Tuberculosis. F. Hilpert.—p. 348.
Treatment of Septic Abortion. L. Handorn.—p. 350.
My Experiences with Neo-Silver-Arsphenamin. E. Galewsky.—p. 352.
Enrichment for Bacteria in Human Urine. Huntemüller.—p. 353.
Use of Aluminum Strings in Cardiographic Work. A. Weber.—p. 356.
Diagnosis and Treatment of Empyema of the Mastoid Cells in Acute Otitis Media. Scheibe.—p. 358.

Wiener klinische Wochenschrift, Vienna

Feb. 23, 1922, **35**, No. 8

*Bacteriophagia. Bail and Watanabe.—p 169.
Method of Separating Out Human Leukocytes. Starlinger.—p. 172.
*Nonspecific Wassermann and Meinicke Reactions. K. Bauer.—p. 173.
Diagnosis of Volvulus of the Cecum. H. Lehmann.—p. 175.
Succinic Acid in the Cyst Contents of a Glioma. Corvin.—p. 178.
Ascariasis of the Biliary Ducts. A. Neudörfer.—p. 179.
Tuberculin Treatment in Extensive Lupus. W. Böhme.—p. 180. Reply. —M. Strassberg.—p. 181.
*The Cancer Questionnaire. S. Peller.—p. 182. Conc'n.
Medical Conditions in Soviet Russia. Pappenheim.—p. 185. Cont'd.

March 2, 1922, **35**, No. 9

Tuberculin in Treatment of Eye Disease. J. Meller.—p. 193.
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Diagnosis and Therapy of Flatfoot. S. Romich.—p. 195.
Praeputium Clitoridis and Gonococcal Infection. E. Clodi and K. I. Schopper.—p. 197.
Eye Injuries and Determination of Compensation. Hanke.—p. 199.

Mixed Bacteriophagi.—Bail and Watanabe refer to their recent report that careful examination of a Shiga bacteriophagus showed that it was composed of two different "partial" bacteriophagi, one of which produced large holes or rings on the agar plate and the other small (sometimes tiny) holes. Further investigations reveal that besides these two "partial" bacteriophagi they have discovered a third which is characterized by rings of medium size on the Shiga plate; there may also be combinations of these three types, which present accordingly still different characteristics.

Positive, Nonspecific Wassermann and Meinicke Reactions Following Digitalis Therapy.—Bauer reports several cases to show that through the effects of digitalis medication negative Wassermann and Meinicke reactions may become positive though there is no syphilitic infection. Blood for the Wassermann or Meinicke test should be taken only when the patient is not under the influence of previous medication.

Analysis of Replies to Questionnaire Sent Out by the Austrian Society for Cancer Research and Control.—Peller regrets that only 389 physicians, or less than 10 per cent. of the number addressed, returned replies to the questionnaire, which covered sixteen points pertaining to cancerous growths. While some physicians reported an increased morbidity or an increased mortality in certain houses or in certain streets or localities, the evidence was not conclusive that these conditions were not due to chance. As to an increased mortality in certain industries and among certain professions, most physicians denied any such connection; others stated that innkeepers, physicians, chimney sweeps, the rural population and merchants were especially affected. There were many reports of families in which all the brothers and sisters were affected. Cancer à deux, occurring in both husband and wife, was reported in several instances but not frequently enough to prove contagion. Nothing new was brought out with respect to the effects of soil, nutrition, habits of living, heredity and transmission. Of 2,070 cases of carcinoma in men in the Eiselsberg clinic, 9.3 per cent. were under 40; 1.5 per cent. under 30, and all were past 20. Of 1,600 cases in women in the same institution, 14.8 per cent. were under 40; 2.8 per cent. were under 30, and there were two cases under 20.

There were many instances in which previously benign growths had, after various periods, become malignant. Many reported that they had seldom found carcinoma in tuberculous persons. Some found that carcinoma was favored by syphilis, alcoholism and emotional strain. Others incriminate disturbances of the endocrine system. One Vienna physician had found Jews more disposed to cancer than other inhabitants. In 2,000 cases of carcinoma of the female genital organs only 7 per cent. were virgins, but many physicians denied that there was any connection between carcinoma and sexual conditions. Febrile diseases, especially erysipelas, were said by many to have had a favorable influence on carcinoma. Others had noted bad effects from fever. In many cases anemia and cachexia were the first signs of the existence of carcinoma. As to the good effects of operation, the replies, on the whole, betrayed a pessimistic tone. However, of 2,000 carcinoma colli cases coming to operation, 38 per cent. had not recidivated during periods of five years and longer. In another series of 20, three patients are still living after 10, 12 and 24 years, respectively. Many physicians speak of a great difference in the virulence of carcinomas, and state that enduring results depend greatly on this factor.

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*Fate of Sutured Tendons. A. Salomon.—p. 74.
Mesenteric Cyst Containing Milky Fluid. A. Candea.—p. 77.
*Treatment of Volvulus of Sigmoid Flexure. Gussew.—p. 78.
Wide Clamps for Operations on the Intestine. V. E. Mertens.—p. 79.
Operation for Harelip and Cleft Palate. R. Milner.—p. 80.

Fate of Sutured Tendons.—Salomon points out that the functional prognosis of tendon sutures is far from being as favorable as the textbooks would lead us to suppose. The functional results for the extensor tendons are much better than for the flexor tendons. Hägler figured for the extensor tendons a complete cure in 77 per cent. of the cases; for the flexor tendons only in 46 per cent. According to Volkmann, the prognosis for the flexor tendons of the fingers and the palm of the hand is exceedingly unfavorable. This coincides with Bier's personal observations. As the cause for the bad results with tendon sutures, especially on the flexor side, adhesions of the tendon with its sheath and the surrounding soft parts are usually cited. To prevent such adhesions, systematic exercise of the sutured tendon as soon as possible after the suture was advocated. But the tearing out of the suture in two cases in Bier's service led to the discontinuance of this practice, and even cautious movements are not begun now until a week after the wound has healed. According to Bier's investigations, early movements have not materially improved the situation. In flexor sutures, Bier found good results in only 20 per cent. Analysis showed that these were all cases in which the sutured region of the tendon was not shut up tight in its sheath. Salomon, therefore, proposes that in the region of the suture a considerable portion of the sheath be removed, so that the surrounding tissues can be utilized to bring about a firmer union of the stump ends. Experiments on animals invariably confirmed the solid union that resulted when the tendon suture was thus left open and not imprisoned in its sheath. Fixation of the fingers in a strongly flexed position, as often done in connection with flexor tendon sutures, should be avoided, he thinks, as it tends to produce contracture.

Treatment of Volvulus of the Sigmoid Flexure.—Gussew discusses the unsatisfactory features of the common methods employed to prevent the recurrence of volvulus of the sigmoid flexure; sigmoidopexy, sigmoido-anastomosis and resection of the flexure. Sigmoidopexy is seldom effective; he has often noted that the bowel worked loose and the volvulus recurred. The same thing is true, in part, of the anastomoses. Gussew describes a fourth method which was first introduced by Grekow, and has been tried out by several surgeons in recent years. The method consists in invagination of the redundant bowel. The mesosigmoid at the base of the flexure is detached and resected. A rubber tube is introduced through the rectum as far as the apex of the portion of the intestine to be invaginated. The bowel is then tied to the upper end of the tube and is drawn down with it and out through the anus as the tube is withdrawn. At the base the invagination is secured by a few seroserosa sutures. The invaginated portion of the intestine necroses and is cast off. The writer thinks the method is adapted to a considerable number of cases, even when the intestine is gangrenous.

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*Gastropexy Before Irradiation of Carcinoma. E. Kreuter.—p. 106.
Resection or Gastro-Enterostomy in Gastric Ulcer Distant from Pylorus. J. Dubs.—p. 108.
Fibroma in Appendectomy Scar. A. Cahn.—p. 110.
*Maneuver to Demonstrate Gravity Abscess. Elsner.—p. 111.
Transient Compression of Carotid Artery as Aid in Operating Cerebral Abscess. O. Muck.—p. 112.
"Suprarenalectomy in Epilepsy." H. Fischer.—p. 113.
"A Peculiar Metatarsal Affection." E. Jacobsen.—p. 116.
Tetanus. E. Schultze.—p. 118.
Management of Stump in Goiter Operations. H. Flörcken.—p. 120.

Gastropexy Preliminary to Roentgen Irradiation of Carcinoma of the Stomach.—Kreuter utilizes the round ligament of the liver to draw up and fasten inoperable carcinomas close to the umbilicus and thus immobilize and make them more accessible for roentgen irradiation. A portion of the gastric wall can be folded over the ligament. Kreuter has applied this method in four cases, and he thinks the prospects are more favorable than when the tumor is sutured into the abdominal wound.

Maneuver to Demonstrate Gravity Abscess in Abdomen.—Elsner has found that in endeavoring to locate a gravity abscess in a child, he can best overcome restlessness in the patient or undue tension of the abdominal walls by allowing the subject to assume the knee-elbow position during the examination.

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Development of Myoma After Transplantation of Ovaries. C. Fleischmann.—p. 82.
Roentgen Irradiation of Fibroma in Two Sittings. Driessen.—p. 83.
The Place of Suggestion in Gynecology. B. Liegner.—p. 89.
*Diphtheria Bacilli in Vagina. F. Lönne and P. Schugt.—p. 93.
*Indications for Ventrifixation. H. Doerfler.—p. 95.

The Occurrence of Diphtheria Bacilli in the Vagina.—Lönne and Schugt refer to recent reports that diphtheria bacilli were found in from 14 to 23 per cent. of the vaginal secretions examined. The writers examined 209 vaginal smears for diphtheria bacilli, including 58 healthy gravidae, and 30 cases of retroflexion, or dysmenorrhea prolapse, oophoritis or adnexitis. In none of the cases were they able to discover genuine diphtheria bacilli, although spurious diphtheria bacilli were found in 45 per cent. of the smears.

Indications for Ventrifixation.—Doerfler refers to statements that all forms of ventrifixation are reprehensible. He takes the opposite stand, holding that ventrifixation is today an absolutely indispensable operation, which has shown its great value in many ways. He thinks that the Alexander-Adams method should be given up for a less dangerous and more certain method. For twenty years he has used a method which resembles somewhat the Doléris method but which takes better account of the anatomic relations and does away with the danger of ileus. He describes his method in detail. The round ligament is drawn through a slit in the fascia, muscle and peritoneum, the slit in the fascia being about 1 cm. inside and a little below the inguinal ring. The loop drawn out is about 1 or 1.5 cm. long, and it is sutured to the slit in the fascia and to the fascia below to distribute the traction. Each round ligament is thus brought out and sutured, the loops symmetrical so that the uterus will be held horizontal, without special strain, and swinging freely. The round ligaments preserve almost exactly their normal direction; there is no vacant space into which an intestinal loop can slip and lead to ileus. Recurrence is almost impossible, and the fixation of the uterus in an almost normal position gives better results than the Alexander-Adams or any other method, while the ligaments can be shortened more or less according to needs. He gives also what he regards as the indications for the operation.

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*Intracranial Hemorrhage in New-Born. M. Henkel.—p. 129.
*Pregnancy After Bilateral Adnexitis. J. Arnold.—p. 139.
*Glucose to Promote Labor. M. Müller.—p. 140.
Comment on Sachs "Extraction of After-Coming Head of Dead Infant." W. Sigwart.—p. 144.
The Fourth Maneuver. H. Baumm.—p. 145.
Cullen's "Discoloration of Umbilical Region as Sign of Ruptured Extra-Uterine Pregnancy." H. Hellendall.—p. 147.

Asphyxia in Relation to Intracranial Hemorrhage in the New-Born.—Henkel states that in a series of 12 cases of intracranial hemorrhage in infants, aside from three forceps cases, there was only one, or, if we count also the case in which rupture of the uterus occurred, two cases in which trauma could be shown to have been associated with the intracranial hemorrhage. In all the other cases he could find no cause for the intracranial hemorrhage other than asphyxia. This supposition, he thinks, gains further support by the fact that at necropsy in cases of asphyxia in which there was no intracranial hemorrhage, minute hemorrhages in heart muscle and endocardium were observed. If asphyxia is actually the cause of intracranial hemorrhages, an otherwise remediable asphyxia might become fatal. This opens up important therapeutic possibilities. Since his cases have shown that trauma from the use of forceps must not be exaggerated as the cause of intracranial hemorrhages, and other injury of mother and child, he raises the question as to whether we should not more frequently use the forceps to prevent intracranial hemorrhages induced by the asphyxia. The use of the forceps would apply only to cases in which asphyxia occurs during the last stage of birth.

Pregnancy Following Severe Bilateral Adnexitis.—Arnold reports an unusual case in which a patient became pregnant and gave birth to a living child five years after a severe bilateral adnexitis, which was treated conservatively.

Glucose to Promote Labor Pains.—Müller reports, on the basis of clinical observations, that glucose, administered intravenously in a from 40 to 50 per cent. solution, in 10 c.c. doses, is a good remedy to promote labor contractions, especially when the patient is suffering from weakness due to labor.

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Indications That Acute Diffuse Glomerulonephritis Is a Primary Diffuse Vascular Affection. E. Kylin.—p. 41. Conc'n No. 4, p. 65.

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*Roentgen-Ray Diagnosis of Gout. H. Jansen.—p. 1.
*"Functional" Paralysis of the Arm. G. H. Monrad-Krohn.—p. 9.
*Pathogenesis of Auricular Fibrillation. G. Fløystrup.—p. 12.
*Internal Secretion Between Mother and Fetus. A. Tanberg.—p. 33.
*Improved Technic for Colorimetry. H. C. Gram.—p. 52.
General Mechanism of Respiratory Movements. H. Gertz.—p. 71.

Unusual Case of Chronic Gout.—Both hands of the man of 47 showed spongy enlargement of the finger joints with edema of the back of the hand. These disturbances had begun at the age of 19. There was no fever, no enlargement of glands, and nothing to suggest gout at any other point, or arthritis deformans, syphilis, tuberculosis or cancer. The wrist was as large as the forearm, and the ulna and radius could be easily pried apart. Palpation was not painful, and one elbow was also thickened. The roentgen rays showed circular clear patches surrounded by a darker margin in the thickened bones—actual urate tophi in the bone. Jansen found similar evidence of bone tophi in a second case. The urate gout had attacked the hands also but there were other manifestations. (In English.)

"Functional" Paralysis of the Arm.—Krohn discusses the function of the latissimus dorsi muscle, and describes some tests which prove a functional dissociation of the action of this muscle when the alleged paralysis of the arm is of neurotic, hysteric or hypnotic origin or is factitious. (In English.)

Pathogenesis of Auricular Fibrillation.—Fløystrup has been making a special study of the heart after death from auricular fibrillation. In nine of the twenty-eight cases he examined the hearts himself; the others are from the literature. In every instance the auricles had to work against absolutely or relatively increased resistance. This suggests that overworking, fatigue and exhaustion are what entail fibrillation of the auricle. Transient fibrillation is another thing. This may occur suddenly without any disease of the heart or evident occasion for the arrhythmia, or as a nervous palpitation from fright, and it may be induced in curarized dogs by synchronous irritation of the vagus and sympathetic nerves. (In English.)

Internal Secretion Between Mother and Fetus.—In this analysis of the interaction between the endocrine systems of mother and fetus, Tanberg lays great stress on the mother's diet. This can be studied experimentally. In all probability, he asserts, internal secretion is influenced to a high degree by the composition of the diet. (In English.)

Improved Technic for Colorimetry.—Gram comments on the successive darkening of acid hematin by the colorimetric method of Autenrieth, and explains how to prevent it. This can be accomplished by adding 2 per cent. hydrogen peroxid to the diluting fluid. (In English.)